

DATE: June 26, 2023

DEPARTMENT OF GENERAL SERVICES
BUREAU OF CAPITAL PROJECT DESIGN MANAGEMENT
1800 HERR STREETS
HARRISBURG, PENNSYLVANIA

ADDENDUM NO. 28

on

PROJECT NO. DGS C-0211-0005 PHASE 005
PROJECT TITLE - PA State Police Academy - Core Bldgs, BESO & Sitework
PROFESSIONAL:
SOM
7 World Trade Center
New York, NY, 10007

If you submitted a bid prior to this Addendum being issued, your bid has been discarded and you must re-submit your bid(s) prior to the bid opening date and time.

GENERAL CHANGES – ALL CONTRACTS

Item 1 - Please note the following:

Final questions must be submitted via e-Builder no later than 5:00 PM ET on Tuesday, July 18.

Final Addendum will be issued via e-Builder no later than Tuesday, July 25th.

Bids are due by Tuesday, August 1, no later than 2:00 PM. This is a very tight bidding schedule so please manage your time effectively.

Item 2 - Addendums for this bid begin with Addendum 24. Please note that Addendums 1-23 were issued in the course of the previous bid process and can be disregarded for the purposes of this bid. Items issued in addendums from the previous bid process have been incorporated into the current, re-issued bid documents.

Item 3 - Additional individuals from any bidder wishing to gain access to the bid documents must register through eMarketplace and create an account to access e-Builder. Access cannot be granted in any other fashion.

Item 4 - The optional pre-bid conference was held at the Pennsylvania State Police Academy on Friday, June 16 as notified in Addendum 26. Issued with the addendum for reference are the sign-in sheet from that meeting and the presentation materials by BDISBO.

Item 5 - In response to questions submitted, please note the following:

.1 CONTRACT

- Question 48: Please confirm that all references to "Special Inspections" in the trade specifications falls under the Quality Assurance Testing and Inspection Services in spec 014040.
- Response: 1. Tests, inspections and special inspections listed in Section 1 and Section 2 of specification Section 014010 "Quality Assurance Testing and Inspection Services" plus tests, inspections and special inspections listed under "Department's Quality Assurance Services" in each trade specification are part of the Department's Quality Assurance Services. Please confirm interpretation that spec section 014040, referenced in this question, was not issued, and that the question refers to 014010 as per above. 2. Tests, inspections and special inspections in specification Section 014000 "Quality Control Testing Services" plus tests, inspections and special inspections listed under "Quality Control" and elsewhere in each technical specification (and not within "Department's Quality Assurance Services") are part of the Contractor's Quality Control responsibilities.

- Question 49: Spec 015000 1.11 calls for General Contractor to provide "hoisting facilities" for "all work". Please confirm what "hoisting facilities" means and what does "all work" mean. The GC isn't going to provide material lifts or cranes for other primes.
- Response: Hoisting facilities refers to the hoisting of materials during construction. Each prime contractor is responsible for the hoisting associated with their respective scopes of work.
- Question 56: Table of contents lists spec section 119010 for range equipment. This spec section is not in the spec book. Please advise.
- Response: Refer to spec section 119010, issued in Addendum 28.
- Question 57: Please provide clear direction on the scope for bird control devices. Drawings MAQ-A-160/161 point to M37 which references bird control devices and notes that it is to be installed where two parallel exterior walls are less than 1' apart. However, the spot that is pointed to is more than 1' apart. It is not clear where and how much quantity of bird control devices are required.
- Response: BCD-02 to be provided on parapets where the gap between parallel exterior walls is less than 3'. Refer to revised note on MAQ-A-160 and MAQ-A-161 as issued in Addendum 28. Bird control devices are to be installed at the manufacturer-recommended frequency along the length of the parapet where indicated.
- Question 59: Please confirm that the .2, .3, and .4 prime contractors are responsible for disconnecting existing utilities and making safe for all buildings to be demolished.
- Response: The .2, .3, and .4 prime contractors are responsible for disconnecting existing utilities and making safe buildings to be demolished. The .1 General Contractor is responsible for all excavation, and removal of underground utilities necessary for construction of proposed site.
- Question 60: Please provide tree sizes for American Holly and Tickseed on drawing STE-L-510.
- Response: See Addendum 28 drawing STE-L-510 for tree sizes including for Ilex opaca. CT (Tickseed) has been removed from the project. The two trees previously tagged as tickseed are changed to GT (Honey Locust) per Addendum 28 sheet STE-L-503.
- Question 61: There is a 44' high masonry wall where the Marquee building meets the FTUE. Should there be a horizontal joint in that wall? If so, please show where this should be.
- Response: Please confirm that this question references the 44' wall between MAQ and FTUE shown on drawing 3 / FTUE-S-251 and drawing 3 / MAQ-S-211, also shown in the architectural drawings on details 1 and 2 on FTUE-A-512. This wall is a concrete wall, not a masonry wall. No horizontal joint is required.
- Question 62: Is there to be a backer rod underneath WPS-01 at the back side of the brick shelf on detail 1/GEN-A-520?
- Response: The referenced detail refers to a 1" fillet strip at the back side of the brick shelf. Provide waterproofing transition as per manufacturer detail. Backer rod is an acceptable option.
- Question 64: Can the AISC Fabricator and AISC Erector certification be waived?
- Response: No, the AISC Fabricator and AISC Erector certification cannot be waived.
- Question 65: Please confirm how cost escalation will be handled on this project over the 4.5 years.
- Response: Management of escalation for the duration of the contract is at the discretion of the bidder.
- Question 66: Conference Room M-0344 on MAQ-A-113 appears to show some kind of built-in casework on the plan north of the room however, elevation 14/MAQ-A-675 does not show anything regarding casework or countertops. Please clarify.
- Response: Refer to revised MAQ-A-675 as issued in Addendum 28 clarifying millwork scope in Conference Room M-0344.
- Question 67: Typical restroom vanity section detail 1/GEN-A-771 does not have a label for the ADA vanity panel nor do the MAQ restroom elevations. Please define the ADA vanity material. If the ADA vanity material is to be solid surface material, please detail the supporting structure.
- Response: ADA Vanity countertops throughout the project are solid surface, refer to plans and elevations for color selections. SSP-01 is typical countertop for all MAQ restrooms. Supporting structure is miscellaneous metal as shown in detail 1/GEN-A-771. Design of vanity support framing is delegated to the contractor, as per spec section 055000, 2.1, paragraph 7.
- Question 68: Some of the MAQ restroom elevations on the MAQ-A-31X drawings call for SSP-01 countertops and some do not have labels. Please confirm SSP-01 is the typical countertop for all restrooms.
- Response: Confirmed, SSP-01 is typical countertop for all MAQ restrooms.

- Question 69: Spec 114000 millwork items 127.1, 128, 128.1, 137, and 153 call for the vertical cabinet cladding and countertops to be selected "by professional". Please provide these selections.
- Response: Refer to revised notation on sheets MAQ-A-123, MAQ-A-669, MAQ-A-670, MAQ-A-752, and MAQ-A-753 as issued in Addendum 28 for counter and cabinetry finishes.
- Question 70: East Beverage Stations shown on MAQ-A-123 and MAQ-A-753 do not have the countertops labeled. Please advise.
- Response: Refer to revised notation on sheets MAQ-A-650, MAQ-A-669, MAQ-A-752, and MAQ-A-753 as issued in Addendum 28 for counter and cabinetry finishes.
- Question 71: Drawing GEN-A-730 shows details for windows W05 and W07. Specification 085113-1.1-C-2 states that these windows will not be used. Please advise.
- Response: Refer to revised specification section 085113 as issued in Addendum 28, including specification information on windows W05 and W07.
- Question 72: What aspect of the CLT is delegated design? The documents indicate size, species and loading. Please advise.
- Response: This response will be included in an upcoming addendum.
- Question 73: Spec section 061719 - 2.1 - B indicates a certification showing timber is to be sustainably sourced and harvested. What are the sustainability requirements?
- Response: This response will be included in an upcoming addendum.
- Question 74: Spec section 061719 - 2.1 - G indicates FRT treatment is required. It is our understanding that CLT cannot be fabricated with FRT lumber. Please advise.
- Response: This response will be included in an upcoming addendum.
- Question 75: Spec section 061800 - 2.1 - B indicates a certification showing timber is to be sustainably sourced and harvested. What are the sustainability requirements?
- Response: This response will be included in an upcoming addendum.
- Question 76: Mockup notes on Drawing GEN-S-016 indicate that all mockups shall be constructed at the timber manufacturers facility. The timber manufacturer is not providing and erecting the steel so this requirement isn't practical. Please confirm that field mockups are acceptable and that the field markups can be part of the final construction.
- Response: Field mockups are acceptable, and are acceptable to be part of final construction if approved.
- Question 77: Spec 114000 millwork items 127.1, 128, 128.1, 137, and 153 note to see Countercraft drawings. We haven't been able to find these Countercraft drawings. Please provide.
- Response: The specifications and Details can stand on their own to obtain a price from an alternate counter manufacturer based on the specs or they may obtain a price directly from Countercraft based on the specs and accelerated design phase shop drawings. As this is not a sole source project, it would be inappropriate to publish the Countercraft shop drawings. The bidders should rely on the Bid plans, Bid details and Bid specs.
- Question 78: Is Lava Stone (Pietra Lavica) an acceptable substitute for ST-03 Black Slate?
- Response: Provide bid for material as shown in bid documents. Substitutions will be considered after award.
- Question 79: Please confirm F-142 Control Room in the FTU does not have any cabinetry or countertops and the table and chairs are part of the FF&E package.
- Response: FTU -Room F-124 Control Room has a millwork counter that is not part of FF&E. The chair in this room is part of the FF&E package. See revised sheets FTU-A-680, FTU-A-652, FTU-A-771, FTU-A-710.
- Question 80: Interior elevation drawings 19/GYM-A-656 and 15/GYM-A-656 do not have countertops or cabinets labeled. Please advise.
- Response: Refer to revised GYM-A-656 and GYM-A-750 as issued in Addendum 28 clarifying material selections.
- Question 81: Spec 064000 Solid Surface Panel calls for 3/4" thick countertops. Are 3cm thick countertops acceptable in lieu of a mitered 3/4" thick condition?
- Response: Provide bid for detail as shown in bid documents. Substitutions will be considered after award.
- Question 82: Where is ST-02 Absolute Black Granite located on the project?

- Response: ST-02 is not included in project scope and can be disregarded in bids.
- Question 83: The answer to this question is that the .1 and .2 contractors need to coordinate electricity and fuel requirements for temporary heat. That can't be done until after contracts are awarded so the .1 contractor doesn't know what to include in bid for fuel and electric for temporary heat. Please advise.
- Response: This response will be included in an upcoming addendum.
- Question 84: What are the parking requirements, per phase, that need to be maintained for the Owner?
- Response: This response will be included in an upcoming addendum.
- Question 85: The answer provided on these is to coordinate with Package 2.1 contractor. This doesn't provide any direction for bidding purposes. We need to know the duration provided for these two buildings in order to insert into our schedule. Please advise.
- Response: This response will be included in an upcoming addendum.
- Question 86: Response to Question 35 regarding TE-01 only tells us that the fence is 6' tall. Please provide details. What is the gate width? Spec 323113 says 3' but that doesn't make sense for a trash enclosure. Are there bollards? Are we to scale the size of these enclosures?
- Response: This response will be included in an upcoming addendum.
- Question 87: Response to Question 36 notes that the future pasture fence is to be excluded. Please confirm if the pasture fencing shown on STE-C-402 is to be included in this package?
- Response: Yes, pasture fence on STE-C-402 is to be installed as shown.
- Question 88: Response to question 37 notes that the riding ring is to be excluded in this package. Please confirm the scope of the 10' sidewalk that goes to the riding ring.
- Response: 10' sidewalk that goes to the riding ring is to be excluded. Sidewalk along North Drive is to be installed as shown on STE-C-403 and STE-C-406.
- Question 89: Addendum 27 Response #46 calls for us to provide a lump sum to underpin/support the existing building. The EOR needs to provide the extent of underpinning required in order to price. We don't have locations, dimensions, depths, quantities, or existing drawings to provide a price for this work.
- Response: This response will be included in an upcoming addendum.
- Question 90: Addendum 27 response 46 refers to us to "Question 4". I don't see a "Question 4" in either addendum. Please advise.
- Response: Addendum 27 response 46 mistakenly refers to "Question 4", but was meant to point to "Question 3" as posted in Addendum 24.
- Question 91: The numbering of the RFI responses are confusing. In e-builder, each question is given a unique number and title, but those unique numbers and titles are not used in the addendum RFI responses. This creates a tracking and documentation issue. Why can't the e-builder number be used in the RFI responses? This would make for a cleaner process especially when submitting follow-up RFI's to previously answered RFI's.
- Response: Project Addendum issuance protocols restrict posting of question titles within addenda. Question number references in Addenda are aligned with e-Builder question numbers, with separate numberings per .1, .2, .3 and .4 contracts.
- Question 92: Please confirm that the .2, .3, and .4 contractors have all of their own excavation and backfill within 5' of the buildings and within the building footprints.
- Response: This response will be included in an upcoming addendum.
- Question 93: Please confirm the .2 contractor is responsible for excavation and backfill for geothermal work since this is delegated design and is not currently shown on the documents.
- Response: This response will be included in an upcoming addendum.
- Question 94: On drawing STE-C-701 the emergency generator conduit to the Marquee building runs through the existing building that needs to remain during the Marquee construction. Please advise.
- Response: This response will be included in an upcoming addendum.
- Question 95: Please confirm what parking is needed to be turned over when the Marquee building is occupied.

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- Question 1: Since specs on the generator day tanks are located in spec section 231113, its assumed that these are not being provided by the generator manufacture. A generator day tank can be a stand alone tank located adjacent to the genset or mounted underneath as a belly day tank.

- Response: Refer to revised spec section 263213 and drawing MAQ-E-505 as issued in Addendum 28, modified to show belly tank only.
- Question 2: Since specs on the main tank and fuel polishing system are located in spec section 231113, its assumed that these are not being provided by the generator manufacture.
- Response: Refer to revised spec section 263213 and drawing MAQ-E-505 as issued in Addendum 28, modified to show belly tank only.
- Question 3: Spec section 263213, 2.2 list generator MAQ at 2800KW. Drawing MAQ-E-501 calls out 3125KW. Drawing MAQ-E-505 calls out a 3250KW. Please clarify the generator size.
- Response: Refer to revised spec section 263213, drawing MAQ-E-501, and MAQ-E-505 as issued in Addendum 28 clarifying generator size.
- Question 4: Spec section 263213, 2.7 calls out 81.4dba at 23'. Drawing MAQ-E-505 calls out 75dba, and 80dba. Please advise free field dbA level at 23'.
- Response: Refer to revised spec section 263213 and MAQ-E-505 as issued in Addendum 28 clarifying dbA levels.
- Question 5: Drawing BSO-E-100 calls out a 750KW genset. Spec section 263213 does not list a 750KW genset. Genset elevation shows a generator without a base tank. How is this genset fueled?
- Response: Refer to revised spec section 263213 and BSO-E-100 as issued in Addendum 28. Drawing BSO-E-100 calls out a 750KW genset with revised spec section 263213 and is fueled via Belly Tank.
- Question 6: Drawing MAQ -E-501 is the 1-line for the 3125KW genset. BSO-E-402 is the 1-line for the 750KW genset. Are there 1-line drawings showing the 320KW and 200KW generators listed in the specification or are these gensets not to be included? If they are to be included, how are both of these generators (320kw & 200kw) being fueled?
- Response: Refer to revised spec section 263213, BSO-E-402 and MAQ-E-501 as issued in Addendum 28. Drawing MAQ-E-501 is the 1-line for the 3125KW genset and BSO-E-402 is the 1-line for the 750KW genset match revised spec section 263213.
- Question 7: Drawing MAQ-E-505 calls out a 6,000gallon base tank and a 10,000 gallon day tank. This is contradictory. If the 6,000 gallon tank is a subbase tank, then it would have floats, return pump, and controls and be considered the day tank. The 10,000 gallon tank would be the main tank supplying the 6000gallon belly day. The same drawing also calls out a 15,917 gallon base tank. What fuel tank configuration is requested for this genset?
- Response: Refer to revised drawing MAQ-E-505 as issued in Addendum 28 clarifying belly tank size.
- Question 8: the lighting symbol legend seems to be incomplete and lacking descriptions. Please clarify and provide more description for lighting symbols on drawing GEN-E-001
- Response: Refer to revised GEN-E-001 as revised in Addendum 28 revised for clarity.

SPECIFICATION CHANGES – ALL CONTRACTS

Item 1 - Please refer to the attached documents for updated specifications as described in responses to questions and listed below.

NUMBER / NAME / ACTION
 085113 / Aluminum Windows / Revised
 113000 / Residential Appliances / Revised
 119010 / Range Equipment / Issued
 263213 / Engine Generators / Revised

DRAWING CHANGES – ALL CONTRACTS

Item 1 - Please refer to the attached documents for updated drawings as described in responses to questions and listed below.

NUMBER / NAME / ACTION
 STE-L-503 / PLANTING PLAN - TILE C / Revised (planting schedule revised)
 STE-L-510 / PLANT SCHEDULE / Revised (planting schedule revised)
 MAQ-A-123 / FLOOR PART PLAN D - LEVEL 1 / Revised (clarified materials)
 MAQ-A-160 / ROOF PART PLAN A / Revised (revised note)
 MAQ-A-161 / ROOF PART PLAN B / Revised (revised note)
 MAQ-A-650 / INTERIOR ELEVATIONS - LEVEL 0 ADMIN CORRIDOR / Revised (clarified materials)
 MAQ-A-669 / ENLARGED PLANS-RCP AND ELEVATIONS - CAFETERIA / Revised (clarified materials)
 MAQ-A-670 / ENLARGED PLANS-RCP AND ELEVATIONS - CAFETERIA / Revised (clarified materials)

MAQ-A-675 / ENLARGED PLANS RCPS AND ELEVATIONS - CONFERENCE ROOMS / Revised (clarified millwork scope and materials)
MAQ-A-752 / ENLARGED PLANS AND ELEVATIONS - VENDING / Revised (clarified materials)
MAQ-A-753 / ENLARGED PLANS AND ELEVATIONS - EAST BEVERAGE STATION / Revised (clarified materials)
GYM-A-656 / INTERIOR ELEVATIONS - MEDICAL UNIT / Revised (clarified materials)
GYM-A-750 / ENLARGED PLANS AND ELEVATIONS - DISPENSARY AND VANITIES / Revised (clarified materials)
FTU-A-652 / INTERIOR PLAN / RCP AND ELEVATIONS - CONTROL ROOM / Revised (clarified millwork scope)
FTU-A-680 / VISION PANEL TYPES AND DETAILS / Revised (clarified millwork scope)
FTU-A-710 / INTERIOR WALL SECTIONS / Revised (clarified millwork scope)
FTU-A-771 / MILLWORK DETAILS / Revised (added detail)
GEN-E-001 / ELECTRICAL SYMBOLS, ABBEVIATIONS AND NOTES / Revised (clarified notes)
MAQ-E-501 / ELECTRICAL SINGLE LINE / Revised (clarified note)
MAQ-E-505 / GENERATOR DETAILS-1 / Revised (clarified notes and schedules)
MAQ-E-506 / GENERATOR DETAILS-2 / Revised (clarified notes and schedules)
BSO-E-100 / OVERALL LEVEL 1 - CONDUIT LAYOUT / Revised (clarified annotations)
BSO-E-604 / SCHEDULES / Revised (clarified schedule)

SECTION 085113
ALUMINUM WINDOWS

PART 1 - GENERAL

1.1 SUMMARY

- A. Stipulations:
1. The specifications sections "General Conditions to the Construction Contract", "Special Conditions" and "Division 01 - General Requirements" form a part of this Section by this reference thereto, and shall have the same force and effect as if printed herewith in full.
- B. General: Provide aluminum windows in accordance with requirements of the Contract Documents.
- C. Section includes, but not limited to, the following:
1. **W-01:** Aluminum windows.
 2. **W-02** through **W-047:** Not Used.
 3. **W-05: Aluminum Window.**
 4. **W-06: Not Used.**
 - 3-5. **W-07 and W-08:** Aluminum windows.
 - 4-6. **A-xx:** Aluminum window accessories and components as indicated on the drawings, schedules, and as described within these specifications. Specific keynote code/tags may not be noted in these specifications, but material descriptions are covered within. Refer to the keynote legend on the drawings.
- D. Related Requirements:
1. Section 072100, Thermal Insulation.
 2. Section 076200, Sheet Metal Flashing and Trim.
 3. Section 079200, Joint Sealants.
 4. Section 080350, Exterior Enclosure, General.
 5. Section 084100, Entrances and Storefronts.
 6. Section 084400, Curtain Walls and Glazed Assemblies.
 7. Section 088000, Glazing.

1.2 REFERENCES

- A. General: Comply with the applicable provisions of the referenced standards except as modified by governing codes and the Contract Documents. Where a recommendation or suggestion occurs in the referenced standards, such recommendation or suggestion shall be considered mandatory. In the event of conflict between referenced standards, this specification or within themselves, the more stringent standard or requirement shall govern.

- B. Reference Standards
 - 1. Aluminum Association (AA)
 - a. AA ASD-1 "Aluminum Standards and Data."
 - b. AA ADM "Aluminum Design Manual."
 - c. AA DAF45 "Designation System for Aluminum Finishes."
 - 2. American National Standards Institute (ANSI)
 - a. ANSI H35.2 "Aluminum National Standard Dimensional Tolerances for Aluminum Mill Products."
 - b. ANSI Z97.1 2015 "American National Standard for Safety Glazing Materials Used In Buildings - Safety Performance Specifications and Methods of Test."
 - 3. American Society of Civil Engineers (ASCE)
 - a. ASCE 7, "Minimum Design Loads for Buildings and Other Structures."
 - 4. American Society for Heating, Refrigeration and Air-conditioning Engineers (ASHRAE)
 - a. ANSI/ASHRAE/IES Standard 90.1, "Energy Standard for Buildings Except Low-Rise Residential Buildings."
 - 5. American Welding Society (AWS)
 - a. AWS D1.1 "Structural Welding Code, Steel."
 - b. AWS D1.2 "Structural Welding Code, Aluminum."
 - c. AWS D1.3 "Structural Welding Code, Sheet Steel."
 - 6. Fenestration and Glazing Industry Alliance (FGIA)
 - a. AAMA/WDMA/CSA A440 S1 "NAFS - North American Fenestration Standard/ Specification for Windows, Doors, and Skylights."
 - b. AAMA 611, "Voluntary Specification for Anodized Architectural Aluminum."
 - c. AAMA 701/ 702, "Voluntary Specification for Pile Weatherstripping and Replaceable Fenestration Weatherseals."

- d. AAMA 910 "Voluntary Life Cycle Specifications and Test Methods for Architectural Grade Windows and Sliding Glass Doors."
 - e. AAMA 2603, "Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels."
 - f. AAMA 2605, "Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels."
7. International Standards Organization (ISO)
- a. ISO 14025, "Environmental Labels and Declarations: Type III Environmental Declarations – Principles and Procedures."
 - b. ISO 21930, "Sustainability in Buildings and Civil Engineering Works - Core Rules for Environmental Product Declarations of Construction Products and Services."
8. National Association of Architectural Metal Manufacturers (NAAMM)
- a. NAAMM AMP-500 "Metal Finishes Manual for Architectural and Metal Products."
9. National Fenestration Rating Council (NFRC)
- a. NFRC 100 "Procedure for Determining Fenestration Product U-Factors."
 - b. NFRC 200 "Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence."
 - c. NFRC 300 "Test Method for determining the Solar Optical properties of Glazing Materials and Systems."
 - d. NFRC 500 "Procedure for Determining Fenestration Product Condensation Resistance Values."

1.3 SUBMITTALS

- A. Delegated Design Submittals, General: Submittals for curtain wall and glazed assemblies indicated shall comply with performance requirements, including analysis data signed by the Contractor's qualified Professional Engineer in the Commonwealth of Pennsylvania responsible for their preparation.
- B. Combined Submittals: See special procedure for combined submittals involving Exterior Enclosure Work specified in Section 080350 "Exterior Enclosure, General."
- C. Product Data: Submit for Professional's action. Submit manufacturer's literature and specifications identifying locations and describing the general properties of each material and accessory to be used in the Work including primary function, quality, performance, location and details of construction relative to materials, dimensions of individual components, profiles, and finishes. Include a statement that each product to be furnished is recommended for the application shown. In addition, include complete instructions for handling, storing, mixing, priming, installing, curing and protecting each glazing material.

Include the following:

1. Environmental Product Declaration (EPD): For each product.
 2. Statement that each product to be furnished is recommended for the application shown.
 3. Two (2) copies of the manufacturer's specification and installation instructions for door units.
 4. Complete instructions for handling, storing, mixing, priming, installing, curing and protecting each glazing material.
- D. Shop Drawings: Submit for Professional's action. Provide shop drawings for the fabrication and installation of the aluminum windows Work. Prepare details at not less than 3-in. = 1-ft. minimum scale. Shop drawings shall contain the seal of Contractor's qualified Professional Engineer registered in the Commonwealth of Pennsylvania as part of Delegated Design.
1. Show typical details of conditions for every member, joint, anchorage and glazing system. Show details of support system, method of attachment to building structure, anchorage details and interface with adjacent work.
 2. Show component locations and intersection details, method of isolating dissimilar materials, provisions for expansion and contraction, method of drainage of the system including gutters, weeps and flashings including method of drainage of condensation which might form external to the vapor barrier and reglazing sequence both in the factory and remedial for the field.
 3. Setting Drawings: Submit for Professional's information, setting drawings and templates for the location of aluminum window items that are to be embedded in or anchored to concrete or masonry.
 4. Indicate all types of vents, including performance grade and class.
- E. Glazing Schedule: Submit for Professional's information, a glazing schedule utilizing the same designations shown on Drawings for glazed windows listing glass types and thicknesses for each size opening and location.
- F. Calculations: Submit for Professional's information. Provide calculations for items with specified design loads. Calculations shall bear the seal of a Professional Engineer registered in the Commonwealth of Pennsylvania as part of Delegated Design. Submit the following:
1. Engineering calculations to show that maximum deflections do not exceed specified performance requirements under full design loading.
 2. Structural calculations for frames, panels, connections and window anchorage system.
 3. Submit calculations of thermal expansion and contraction.
- G. Thermographic Diagrams: Submit, for Professional's information. Submit thermographic diagrams for each proposed typical detail (at horizontal and vertical mullions, at fixed glass and at doors, etc.) indicating graphically the temperature gradient through the mullions for

the ambient temperatures and humidity described in this Specification Section. Indicate the dew point at each instance.

- H. Overall Thermal and Solar Performance Data: Submit, for Professional's information. Using actual laboratory test data and/or computer modeling techniques recognized by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) or otherwise acknowledged by the IECC, submit data defining the average U-value (summer and winter) and average Solar Heat Gain Coefficient (SHGC), as well as center of glass visible light transmittance (VLT), for each window type incorporated in the façade of the building. Calculations shall be based on the glass types specified in Section 088000, Glazing, and shall include glass and frames.
- I. Samples: Submit for Professional's action. Label samples to indicate product, characteristics, and location in the Work. Samples will be reviewed for color and appearance only. Furnish sufficient samples to establish the full range of colors and textures for materials exposed in the finished work. Compliance with other requirements is the responsibility of the Contractor.
 - 1. Submit 3 sets of samples for each metal type, metal finish and color required. Submit sample finishes on 12-in. lengths of metal having the specified alloy, temper, pretreatment and thickness of metal required for the work, showing the maximum range or variation in color and shade.
 - 2. Submit one sample corner of window unit, representative of fabrication techniques and workmanship of the final products.
 - 3. Submit one sample of each type of window hardware specified.
- J. Quality Control Submittals: Submit for Professional's information.
 - 1. Installer Qualifications
 - 2. Test Reports
 - a. Up-to- date (within 5 years), certified test reports from an independent testing laboratory stating that similar sized aluminum windows have been tested and meet the performance for structural requirements and for air and water infiltration and comply with references.
 - b. Up- to- date (within 5 years) certified test reports from an independent testing laboratory stating that similar sized aluminum windows have been tested and meet the performance requirements for condensation and thermal resistance and comply with references.
 - 3. Certifications
 - a. Document Review: Before commencing work, submit a written statement signed by the Contractor and the Applicator certifying that the Contract Documents, shop drawings and product data have been reviewed with material manufacturers' qualified technical representatives and that they agree the selected materials are proper, compatible with contiguous materials and adequate for the application shown.
 - b. Submit manufacturer's and fabricator's certification that the superior performing resinous coating complies with the Contract Documents and

AAMA 2605.

- c. Manufacturer's and fabricator's certification indicating that pigmented organic coating complies with the Contract Documents and AAMA 2603.
 - d. Submit manufacturer's and fabricator's certification indicating that anodized finishes comply with the Contract Documents and AAMA 611.
 - e. Certification, Structural Glazing Sealants: Certification of the following:
 - 1) Certification that the structural silicone sealants and accessories comply with the Contract Documents and are recommended by the sealant manufacturer for the use intended.
 - 2) Certification that the samples tested for adhesion by the sealant manufacturer comply with their requirements for structural glazing; signed by the sealant manufacturer.
 - f. Glass and Glazing Certification: As specified in Section 088000 Glazing.
 - g. Window Certification: Provide written certification by the manufacturer, stating that the aluminum windows comply with the AAMA/NWWDA Standard for specified performance grade and meet all applicable ADA/ANSI A117.1 accessibility requirements described within this Specification Section for operable units.
4. Field Quality-Control Test Reports.
- K. Closeout Submittals: Submit for Department's documentation.
- 1. Warranties: Special warranties as specified.
 - 2. Maintenance Data: Furnish maintenance manual, describing the materials, and procedures for cleaning and maintaining the aluminum windows. Include manufacturer's data describing the materials and finishes used in the work.

1.4 QUALITY CONTROL

- A. Regulatory Requirements: Comply with applicable requirements of the laws, codes, ordinances and regulations of Federal, State and Municipal authorities having jurisdiction. Obtain necessary approvals from such authorities.
- B. Qualified Installer: The aluminum window Work shall be performed by an installer having 5 years of experience in the installation of specified materials on comparable projects. The firm shall have the approval of the aluminum window fabricator/manufacturer. The applicator shall provide evidence of successful completion of work of similar scope to that shown and specified for this Project using similar systems, as determined by one of the following:
 - 1. Installer shall be certified under the North American Contractor Certification Program (NACC) for Architectural Glass & Metal (AG&M) contractors, and shall employ glazing technicians certified under the Architectural Glass and Metal Technician (AGMT) certification program.

Or

2. Installer shall provide written evidence of the following:
 - a. Five (5) years of glazing system company ownership and experience.
 - b. Project references to demonstrate successful completion of similar projects. Three (3) projects minimum.
 - c. A formal Safety Program.
 - d. A formal Quality Manual.
 - e. Resume and qualifications of project Quality Manager.
 - f. A fully implemented Quality Management System, including installation quality verification metrics to be utilized on project.
- C. Professional Engineer Qualifications: As part of Delegated Design requirements, engage the services of a professional engineer who is legally qualified to practice in the Commonwealth of Pennsylvania as part of Delegated Design and who is experienced in providing engineering services of the kind indicated to prepare or supervise the preparation of data for the aluminum windows, including drawings, testing program development, test-result interpretation, and comprehensive engineering analysis that show the systems' compliance with the specified requirements.
 1. Engineering services are defined as those performed for installations of systems that are similar to those indicated for this Project in material, design, and extent.
- D. Sole Source Responsibility: In order that there will be undivided responsibility, award the aluminum window work to a single firm specializing in this type work, with a minimum of 5 years of continuous operations and experience which has successfully completed, comparable sized projects. This Work includes but is not limited, to designing, engineering, fabricating, transporting and erecting the aluminum windows so that performance and aesthetic requirements are complied with.
 1. Comply with requirements of Section 080350 "Exterior Enclosure, General."
- E. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
 1. Visual Mockup: Build mockup of aluminum windows as indicated on Drawings.
 - a. Provide, at Project site, where directed, in coordination with exterior enclosure work, a mock-up of the aluminum window(s) for visual review by the Professional, extent as shown, and representative of the finished Work. Provide joint conditions, anchorage, specified glass, panels, paint finish and other features as will be used in the final Work. The Department, the Professional, and the Department's "Building Enclosure Commissioning Provider (BECxP)" will review the VMUs for conformance with the design intent.
 - b. Visual mock-up(s) shall be erected to sizes as noted, containing materials required for proposed finished aluminum windows containing at least 1 entrance door complete with finish hardware.
 - c. Clean mock-up(s) with materials and techniques intended for use on the

Project.

- d. Replace unsatisfactory Work as required to obtain approval of the Professional.
 - e. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Professional specifically approves such deviations in writing.
 - f. Subject to compliance with requirements, approved mockups may become part of the completed Work.
2. Performance Mockups (PMUs) for Testing of Curtain Wall Systems: Refer to Section 080350 "Exterior Enclosure, General."
- F. Pre-Installation Meetings:
- 1. Comply with the requirements for pre-installation meetings specified in Section 080350, Exterior Enclosure, General.

1.5 DELIVERY STORAGE AND HANDLING

- A. Store aluminum window components in accordance with manufacturer's instructions, above grade on dunnage, properly protected from the weather and construction activities.
- B. Delivery of Fabricated Units: Deliver fabricated window units and component parts to project site completely identified in accordance with erection diagrams. Store in accordance with manufacturer's instructions, above grade on dunnage, properly protected from the weather and construction activities.
- C. Protective Coatings or Coverings: Temporary coating and coverings may be furnished at manufacturer's or Contractor's option to protect the Work during shipment and construction. Such protection shall avoid development of non-uniformity in finishes, shall not impart a residue which would adversely affect the adhesion of sealants, nor cause other deleterious effects in the Work. Temporarily remove protection when requested by Professional for inspection of finishes, and completely remove protection when no longer required.
- D. Material Delivery: Deliver materials to Project site in manufacturers' unopened containers, fully identified with trade name, color, size, hardness, type, class, and grade. Store each item in accordance with manufacturer's instructions. Deliver, store and handle glass in accordance with manufacturer's recommendations; protected from weather, staining and damage. During storage and handling of glass provide cushions at edges to prevent impact damage. Protect glass from scratches and abrasion.
- E. Storage: Store in accordance with manufacturer's instructions, above grade on dunnage, properly protected from the weather and construction activities.

1.6 PROJECT/ SITE CONDITIONS

- A. Field Glazing: Do not perform glazing when temperature is below 40 deg. F. , unless the manufacturer of the glazing materials specifically recommends application of his materials at lower temperatures. If job progress or other conditions require glazing work when temperatures are below 40 deg. F. (or below the minimum temperature recommended by the manufacturer), consult the manufacturer and establish the minimum provisions

required to ensure satisfactory work. Record in writing to the manufacturer, with copy to the Professional, the conditions under which glazing work was performed and the provisions made to ensure satisfactory work.

- B. Bulk Compounds: Do not proceed with installation of bulk compounds during inclement weather unless requirements and manufacturer's instructions can be complied with and unless the work can proceed in accordance with the agreements of the pre-installation meeting. Do not proceed with the installation of sealants under extreme temperature conditions which would cause joint openings to be at either maximum or minimum width or when such extreme temperatures or heavy wind loads are forecast during the period required for initial or nominal cure of sealants. Whenever possible, schedule the installation and cure of sealants during periods of mean temperatures (nominal joint width shown) so that subsequent stresses upon the cured sealants will be minimized.

1.7 WARRANTIES

- A. General: Warranties specified in this Article shall not deprive the Department of other rights the Department may have under other provisions of the Contract Documents and are in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty, Aluminum Windows: Submit for Department's documentation. Provide a written warranty for a period of five (5) years. Repair or replace window work and correct leaks or other defects in material or workmanship during the warranty period. Warranty shall be signed by the manufacturer and the single firm awarded the window work. Upon notification of defects, within the warranty period, make the necessary repairs or replacements at the convenience of the Department. Defects are defined to include, but not limited to the following:
 - 1. Failure of the system to meet performance requirements including but not limited to excessive deflection, racking, warpage, excessive water leakage or air infiltration.
 - 2. Failure of operational parts to function normally.
 - 3. Deterioration, fading, excessive non-uniformity, pitting, cracking, peeling, crazing or discoloration of finishes and other materials beyond normal weathering.
 - 4. Deflection exceeding specified limits.
 - 5. Thermal stresses transferred to the building structure.
 - 6. Framing members transferring stresses, including those caused by thermal and structural movement, to glazing.
 - 7. Noise or vibration created by thermal and structural movement and wind.
 - 8. Loosening or weakening of fasteners, attachments, and other components.
- C. Special Warranty, Superior Performing (Hyper-Durable) Powder Coatings (Exterior): Provide a written warranty, addressed to the Department and assignable to all future Departments within this warranty period from the manufacturer (formulator) of powder coating system and the finisher, for a period of twenty (20) years, warranting against the loss of film integrity, chalking, fading, non-uniformity, corrosion and the overall performance of color of the resinous coatings. Upon notification of such defects, within the warranty

period, make the necessary replacements at the convenience of the Department.

1. Color retention not to exceed 5Δ E Units (Hunter) color change as calculated in accordance with ASTM D2244 on exposed surfaces cleaned with clean water and a soft cloth.
 2. Degree of chalking not to exceed rating No. 8 for colors and No. 6 for whites when measured in accordance with ASTM D4214 Test Method, Test Method A on exposed unwashed surfaces.
- D. Special Warranty, High Performing (Super-Durable) Powder Coatings (Interior): Provide a written warranty, addressed to the Department and assignable to all future Departments within this warranty period from the manufacturer (formulator) of powder coating system and the finisher, for a period of fifteen (15) years, warranting against the loss of film integrity, chalking, fading, non-uniformity, corrosion and the overall performance of color of the resinous coatings. Upon notification of such defects, within the warranty period, make the necessary replacements at the convenience of the Department.
1. Color retention not to exceed 5Δ E Units (Hunter) color change as calculated in accordance with ASTM D2244 on exposed surfaces cleaned with clean water and a soft cloth.
 2. Degree of chalking not to exceed rating No. 8 for colors and No. 6 for whites when measured in accordance with ASTM D4214 Test Method, Test Method A on exposed unwashed surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers, Aluminum Windows: Subject to compliance with requirements, provide aluminum windows by one (1) of the following, or approved equal:
- B. Window **Type W-01**:
 1. Manufacturer: Wausau Window and Wall Systems
 - a. Product: Invision 8250i HR
 - b. Material: Painted Aluminum
 - c. Color: Match **MTL-09**
 - d. Glass: **GL-01**.
 2. Manufacturer: Old Castle Building Envelope
 - a. Product: 3000 Series
 - b. Material: Painted Aluminum.
 - c. Color: Match **MTL-09**

- d. Glass: **GL-01**.
- 3. Manufacturer: Kawneer
 - a. Product: 1600 System 1
 - b. Material: Painted Aluminum.
 - c. Color: Match **MTL-09**
 - d. Glass: **GL-01**.
- C. Window Type **W-02 through W-04 and through ~~W-067~~**: Not Used.**
- D. Window Type **W-05 and W-07: Sizes and Type as scheduled and/or indicated on drawings.****
- 1. **Manufacturer: Kawneer**
 - a. **Product: 601UT System**
 - b. **Material: Painted Aluminum**
 - c. **Color: Match MTL-09**
 - d. **Glass: GL-01**
- 2. **Manufacturer: Old Castle Building Envelope**
 - a. **Product: 6000 XT**
 - b. **Material: Painted Aluminum**
 - c. **Color: Match MTL-09**
 - d. **Glass: GL-01**
- 3. **Manufacturer: Wausau**
 - a. **Product: 4250**
 - b. **Material: Painted Aluminum**
 - c. **Color: Match MTL-09**
 - e-d. **Glass: GL-01**
- ~~C.E.~~ Window **Type W-08: Sizes and Type as scheduled and/or indicated on drawings.****
- 1. Manufacturer: Advanced Glazings Ltd.
 - a. Product: SoleraWall Architectural Windows
 - b. Frame Material: Painted Aluminum

- c. Color: Match **MTL-01**
 - d. Glass: **GL-14**
2. Manufacturer: Kawneer.
- a. Product: 516 Fixed Window Frames
 - b. Frame Material: Painted Aluminum
 - c. Color: Match **MTL-01**
 - d. Glass: **GL-14**
3. Or approved equal.
4. Fabricate glass window system components to meet performance and aesthetic criteria specified and complying with paragraphs "References" and "Performance Requirements". Provide a complete system of anchorage for metal-framed panel system. Allow for erection tolerances and provide for movements of metal-framed panel system due to thermal expansion. Fabricate system at the manufacturer's shop to the fullest extent possible and before applying finishes. Fabricate system with materials proven compatible in testing specified.

D.F. Products of other manufacturers will be considered only if evidence is furnished showing compliance with the minimum design and performance requirements specified.

2.2 DESIGN AND PERFORMANCE REQUIREMENTS

- A. Delegated Design: Contractor shall engage a qualified professional engineer registered in the Commonwealth of Pennsylvania to design and engineer aluminum windows in compliance with performance criteria.
- B. Performance Requirements
 - 1. Comply with the requirements specified in the Paragraph "Performance Criteria" in Section 080350 Exterior Enclosure, General and as specified herein the more stringent governing.
- C. Unacceptable Conditions: Noise or vibration created by thermal movement, structural movement, or wind; thermal movement transferred to building structure; loosening, weakening or failure of fasteners, attachments or other components.
- D. Design Modifications: Make design modifications of work shown only as may be necessary to meet performance requirements and coordinate the work. Variations in details and materials which do not adversely affect appearance, durability or strength shall be submitted to the Professional for review. Maintain the general exterior design concept without altering profiles and alignments shown.
- E. Basis of Design (BOD): When particular manufacturers' materials, products or processes are specified for an item of Work, any one thereof is acceptable for the Contractor to choose. An alternative material, product or process will be considered if the Contractor submits a written substitution request together with all such information as may be necessary to assist the Professional in determining whether the proposed substitution is acceptable; the burden of proof rests solely upon the Contractor.

2.3 METAL MATERIALS

A. Aluminum

1. General: Utilize aluminum members used for aluminum window frames meeting parameters documented in industry-wide environmental product declaration (EPD) published by the Aluminum Association.
2. Aluminum Extrusions: Shapes as shown and as required to fulfill performance requirements, but not less than 1/8-in. thick, unless otherwise shown. Suitable alloy and proper temper for extruding and fabricating with adequate structural characteristics, and suitable for finishing as specified.
3. Aluminum Sheets and Plates: Sizes and minimum gauges as shown and as required to fulfill performance requirements. Suitable alloy and proper temper for forming and fabricate with adequate structural characteristics and suitable for finishing as specified.

2.4 FASTENERS, ANCHORAGE AND REINFORCING

A. Anchor Assemblies: 3-way adjustable anchors that accommodate fabrication and installation tolerances in material and finish compatible with adjoining materials and recommended by manufacturer/fabricator.

1. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts complying with ASTM A123 or ASTM A153 requirements. Provide bolts, washers and shims as required, hot dip galvanized, ASTM A153 , Class A.
2. Steel Anchorage: Anchor assemblies secured to structural steel framing shall be fabricated in accordance with the criteria governing structural steel and where exposed, architecturally exposed structural steel.

B. Fasteners: Stainless steel type 300 series, selected to prevent galvanic action with the components fastened. Where exposed in finished surfaces, use oval-head countersunk Phillips heads and color to match adjacent surfaces. Where fasteners screw-anchor into aluminum less than 1/8 in. thick. reinforce the interior surface with aluminum or non-magnetic type stainless steel to receive screw thru threads or provide manufacturer's standard non-corrosive pressed-in splined grommet nuts. Screwed connections shall be drilled. Unless otherwise indicated, bolts and other fastening devices, including their accessory items (washers, nuts, etc.), shall incorporate self-locking devices and be torques tightened as required to achieve maximum torque tension relationship required by fasteners.

C. Structural Support Steel: ASTM A36 .

D. Steel Angles, Plates, Anchors, Clips, Bars, Rods and other Steel Accessories Required to Join or Reinforce Assembly of Aluminum Components: ASTM A36 and ASTM A283 , galvanized or, if galvanized is not compatible with alloy of component parts, shop painted with primer specified herein after cutting to size. Galvanize ferrous metals embedded in concrete or masonry unless otherwise shown or specified.

E. Aluminum Angles, Plates, Bars, and other Aluminum Members Required to Join or Reinforce Assembly of Aluminum Components: Alloys recommended by manufacturer or fabricator to develop required strength of assembly.

- F. Fasteners and Accessories: Manufacturer's standard non-corrosive fasteners and accessories that are compatible with materials used in the window framing system and with exposed portions that match finish of the windows. Where movement should be expected, provide 3-way adjustable anchors that accommodate fabrication and installation tolerances and slip-joint linings of sheets, pads, shims, or washers of fluorocarbon resin or a similar material recommended by the manufacturer.
1. Items for Bolting Aluminum Extrusions and Connecting Members: Stainless steel complying with ASTM A193 , Series 300; unless otherwise recommended by the window manufacturer.
 2. Items for Anchoring Window to Supporting Structure: Zinc- coated steel fasteners complying with ASTM A307.
 3. Items for Securing Exterior Aluminum Cap Retainers: AISI Series 300 stainless steel screws complying with ASTM A193 .
 4. Where fasteners anchor into aluminum less than 1/8-in. thick, provide non-corrosive pressed-in splined grommet nuts or other type reinforcement to receive fastener threads.

2.5 MISCELLANEOUS MATERIALS AND ACCESSORIES

- A. Aluminum window accessories and components:
1. **WNDA-01:** Aluminum Sill Receptor - Thermally Broken.
 2. **WNDA-02:** Aluminum Sill Framing - Thermally Broken.
 3. **WNDA-03:** Aluminum Intermediate Horizontal Mullion - Thermally Broken.
 4. **WNDA-04:** Aluminum Head Receptor - Thermally Broken.
 5. **WNDA-05:** Aluminum Head Insert - Thermally Broken.
 6. **WNDA-06:** Shim.
 7. **WNDA-07:** Aluminum Intermediate Vertical Mullion - Thermally Broken.
 8. **WNDA-08:** Gasketing.
 9. **WNDA-09:** Glass Stop.
 10. **WNDA-10:** Aluminum Jamb Framing - Thermally Broken.
- B. Glass and Glazing: As specified in Section 088000 Glazing.
- C. Sealants: As specified in Section 079200 Joint Sealants.
- D. Thermal Separators: Provide thermal break by a continuously extruded, multi-directional 25% glass fiber reinforced 6/6 polyamide nylon strip. Aluminum window framing members separated up to a maximum of 3-in. with a locking mechanical connection to the thermal strip(s) by knurling the aluminum cavity and crimping the strip(s) into place to create a composite thermal barrier assembly. Structural performance values of the Thermal Barrier

assembly to meet specific product/project design criteria or at a minimum certified testing criteria and procedures as described by the AAMA TIR-A8 performance standards.

- E. Weatherstripping: AAMA 701 and AAMA 702 "Voluntary Specifications for Pile Weatherstripping and Replaceable Fenestration Weatherseals." Provide compressible, removable and replaceable type weatherstripping formed from neoprene or EPDM complying with ASTM D2000 or molded expanded EPDM or neoprene complying with ASTM C509, grade as selected by the manufacturer.
- F. Stainless Steel Flashing: ASTM A666 (A666M), Type 304, dead soft fully annealed except where harder temper required for forming or performance; 0.015-in. (0.4mm) (28 gage) thick unless otherwise shown, finish No. 2D. Provide 60 - 40 tin/lead solder, with acid-chloride type flux, except use rosin flux over tinned surfaces in accordance with ASTM B32.
- G. Weep Baffles: PVC coated, reticulated, flexible open cell reticulated polyurethane foam; 30-40 pores per 1 in.(25mm) or as recommended by the fabricator. PVC coating shall have a bacteriostat additive added to the formulation. Provide "PVC Coated SIF-G Industrial Foam" (Foamex, Corp.) or approved equal.

2.6 OPERABLE WINDOW HARDWARE

- A. Hardware for Operable Windows: AAMA Series 900 for hardware appropriate to each specified type window. Provide ADA compliant manufacturer's standard or custom design for operation specified; fabricated of stainless steel complying with ASTM A167 or ASTM A666 or white bronze and finished to match frame of window.

2.7 PAINTS AND COATINGS

- A. Rust Inhibitive Primer for Ferrous Metals Not Galvanized: Compatible with finish coats of paint (if any) of the respective dry film thickness (DFT) specified.
 - 1. Provide one of the following:
 - a. "Carboline 893" (Carboline Co.); 4.0 mils - 6.0 mils) DFT.
 - b. "Interseal 670HS" (International Paint); 4.0 mils - 8.0 mils) DFT.
 - c. "Hi-Build Epoxoline II Series V69" (Tnemec Co. Inc.), 4.0 mils - 6.0 mils) DFT.
- B. Galvanizing Repair Paint: Zinc rich paint for repairing galvanized surfaces and field welds in compliance with ASTM A780. Thickness of applied galvanizing repair paint shall be not less than coating thickness required by ASTM A123 or ASTM A153 as applicable.
- C. Dielectric Separator: Heavy coating of epoxy paint in minimum 2.0 mils dry film thickness.
- D. Resinous Coatings for Aluminum, Factory-Applied. Refer to Paragraph "Aluminum Finishes" in Article "Metal Finishes" of this Section.

2.8 FABRICATION

- A. General: Provide manufacturer's standard fabrication, accessories and finish complying with paragraphs "References" and "Performance Requirements." Units shall be reglazable without dismantling of sash framing. Provide a complete system of anchorage for glazed

aluminum window units. Allow for erection tolerances and provide for movements of window units and enframing due to thermal expansion. Fabricate aluminum windows at the manufacturer's shop to the fullest extent possible and before applying finishes.

- B. Welding, Cutting, Drilling, Mitering and Fitting of Joints: Complete the welding, cutting, drilling, mitering and fitting of joints prior to finishing. Weld with electrodes and by methods recommended by the metals manufacturer in accordance with applicable recommendations of the AWS. Use only methods which will avoid distortion or discoloration of exposed faces. Grind weld areas smooth before proceeding with other treatment.
- C. Fastenings: Conceal fastenings unless otherwise shown or specified. Fit and assemble work in the shop insofar as practicable. Carefully fit and match work with continuity of line and design, using rigidly secured joints with hairline contact, mitered corners, unless otherwise shown. Reinforce members and joints with steel or aluminum plates, bars, rods or angles for rigidity and strength as needed to fulfill performance requirements. Use concealed stainless steel fasteners for jointing which cannot be welded.
- D. Panels and Sills: Fabricate aluminum panels and sills utilizing 3/16-in. (min. thickness) aluminum plate. Finish sills and panels to match finish of aluminum frames. Reinforce panels in concealed locations as required to meet specified performance criteria and to resist anchorage stresses. Fasteners or anchorage shall not be exposed to view on finished face of panel or sill.
- E. Weepholes: Provide weepholes and internal water passages in the glazing recess as recommended by the glass manufacturer to conduct infiltrating water to the exterior. Provide weep baffles secured to inside of frame behind weepholes to prevent water migration.
- F. Thermal Separator: Fabricate aluminum window units with an integrally concealed low conductance thermal separator, located between exterior metal material and metal material exposed on the interior in a manner that eliminates direct metal-to-metal contact.
- G. Subframes: Provide subframes with anchors for window units where shown of profile and dimensions indicated fabricated from not less than 1/8-in. thick extruded aluminum. Miter or cope corners and weld and dress joint smooth with concealed mechanical joint fasteners. Finish to match finish specified for frames.
- H. Mullion and Cover Plates: Provide mullion and cover plates where shown matching window units complete with anchors for support to the structure and for the installation of the window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections. Comply with specified performance criteria.
- I. Mullion Covers: Aluminum windows utilizing exposed exterior mullion covers of the snap-on type design, provide a minimum of two (2) concealed fasteners per 5-ft. length to prevent displacement or accidental removal of trim.

2.9 METAL FINISHES

- A. General: Comply with NAAMM's AMP-500 "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes.
 - 1. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of

approved Samples and are assembled or installed to minimize contrast.

2. Remove die markings prior to finishing operations. Where necessary to remove die markings from any part of the work, members must be finished by the same process, whether or not die markings exist. Perform this work in addition to the finish specified. Scratches, abrasions, dents and similar defects are unacceptable.

B. Aluminum Finishes

1. Hyper-Durable Organic Powder Coat Finish (Exterior): Fluoropolymer resin powder finish complying with AAMA 2605 and containing 100 percent fluorinated ethylene vinyl ether (FEVE) resin. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - a. Acceptable Manufacturers/ Finish Systems: Provide one of the following, or approved equal in color(s) and sheen matching control sample(s) and as selected by Professional:
 - 1) "Interpon D3000 Series" (Akzo Nobel).
 - 2) "IFS 500FP" (IFS Coatings).
 - 3) "Corafon" (PPG).
 - 4) "Series 75" (TIGER Drylac Inc.)
 - a. Finish: **MTL-09.**
2. Standard Organic Powder Coat Finish (Interior): Polyester resin organic powder coat finish compliant with AAMA 2603 certification. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - a. Acceptable Manufacturers/ Finish Systems: Provide one of the following, or approved equal in color(s) and sheen matching control sample(s) and as selected by Professional:
 - 1) "Interpon D1000 Series" (Akzo Nobel).
 - 1) "IFS 300SP" (IFS Coatings).
 - 2) "Envirocron-03" (PPG)
 - 3) "Series 38" (TIGER Drylac Inc.)
 - b. Do not use this coating on areas requiring structural silicone unless tested and approved in writing by the structural silicone sealant manufacturer.
 - c. Finish: **MTL-09.**

2.10 SHOP PAINTING FOR FERROUS METAL

- A. General: Shop paint ferrous metal work, except members or portions of members to be embedded in concrete or masonry, surfaces and edges to be field welded, unless otherwise specified.
- B. Cleaning
 1. Remove oil, grease and similar contaminants in accordance with SSPC SP-1 "Solvent Cleaning", prior to any additional surface preparation specified.

2. Clean and prepare metal surfaces before applying shop coat. Remove rust and mill scale in accordance with SSPC SP-3 "Power Tool Cleaning."
- C. Priming
1. Immediately after surface preparation, apply primer in accordance with manufacturer's instructions. Use painting methods which will result in full coverage and dry film thickness specified.
 2. Apply one shop coat of primer to fabricated metal items, except apply 2 coats of primer to surfaces inaccessible after assembly or erection.

2.11 SOURCE QUALITY CONTROL

- A. Contractor's Quality Control Responsibilities: Contractor is solely responsible for quality control of the Work.
- B. Color Range: During production, maintain large size color range samples for use in comparing against production material. Mark and code extremes of the color range so that these are not adjacent to one another in the same plane.

PART 3 - EXECUTION

3.1 GENERAL

- A. Manufacturer's Instructions: Prepare substrates, [apply primers,] and install the Work of this Section; including components, accessories in accordance with the manufacturer's instructions, except where more stringent requirements are shown or specified, and where project conditions, require extra precautions or provisions to ensure satisfactory performance of the Work.

3.2 EXAMINATION

- A. Verification of Conditions: Examine the areas to receive the Work and the conditions under which the Work would be performed. Check carefully the provisions for anchorage and adjustment, allowances for expansion and contraction, and conditions of preset flashings and flashing connections. Contractor shall remedy conditions detrimental to the proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.
- B. Verify dimensions of openings by field measurements so that aluminum windows and related items will be accurately designed, fabricated and fitted to the structure. Tolerances for supporting structure are specified in other Sections. Furnish anchor bolts and inserts for setting in concrete formwork or masonry indicated to support aluminum windows.

3.3 COORDINATION AND SCHEDULING

- A. Sequence of Installation: Schedule installation of the aluminum windows in sequence with related elements of the Work specified in other Sections to ensure that window assemblies, including flashing, trim, and joint sealers, are protected against damage from effects of weather, age, corrosion, and other causes.
- B. Coordination: Coordinate aluminum windows and related metal work with the work of other

Sections and provide items to be placed during the installation of other work. Place such items, including connectors and anchors, accurately in relation to the final location of windows

3.4 PREPARATION

- A. Substrate Acceptability: Commencement of installation shall constitute acceptance of substrate conditions by the Installer.

3.5 INSTALLATION

- A. General: Install aluminum windows supported on shims and secured in place by bolting to clip angles and similar supports anchored to supporting structure. Use only the types of equipment, wedges, spacers, shims and other items during installation which will not corrode nor stain or mar the finish surfaces.
- B. Assumed Design Temperature: Dimensions shown on Drawings are based on an assumed design temperature of 70 deg. F Fabrication and erection procedures shall take into account the ambient temperature range at the time of the respective operations.
- C. Installation: Install aluminum windows plumb and true in alignment with established lines and grades without warp or rack of framing members. Anchor securely in place. Install components to drain water passing joints and condensation and moisture occurring or migrating within the assembly to the exterior. Lubricate operating hardware and other moving parts. Do not erect members which are warped, bowed, deformed or otherwise damaged to such extent as to impair strength or appearance. Remove and replace members damaged in the process of erection. Provide separators and isolators to prevent corrosion, electrolytic deterioration, and freeze-up of moving joints. Separate dissimilar metals with two coats of dielectric separator. Do not extend coating onto exposed or finished surfaces. Prime paint concealed ferrous metal with specified metal primer. Seal joints in a concealed manner, unless exposed sealant is shown. Comply with requirements of Section 079200 Joint Sealants. Install and demonstrate that the completed operable units are installed in a condition acceptable to the Department and Professional.
- D. Cutting and Trimming: Cut and trim component parts during erection only with the approval of the manufacturer or fabricator and in accordance with his recommendations. Do not cut through reinforcing members. Restore finish completely to protect material and remove evidence of cutting and trimming. Remove and replace members where cutting and trimming has impaired strength or appearance.
- E. Welding and Soldering: Weld with electrodes and by methods recommended and in accordance with appropriate recommendations of the AWS. Use only methods which will avoid distortion or discoloration of exposed faces. Grind exposed welds smooth, using only clean wheels and compounds which are free of iron or iron compounds. Restore finish of component parts after welding and grinding. Solder only to fill or seal joints (not to form structural joints). Grind smooth and restore finish. Paint clip angles and other ferrous metal parts not exposed to view with specified rust inhibitive paint. Seal joints in a concealed manner.
- F. Erection Tolerances: Erect aluminum windows within the following tolerances:
 - 1. Variation from Plumb or Angle Shown: 1/8-in. maximum variation in 10-ft. height or 10-ft. run, non-cumulative.
 - 2. Variation from Level or Slopes Shown: 1/8-in. maximum variation in 10-ft. height

or 10-ft. run, non-cumulative.

3. Variations from Theoretical Calculated Position: Variations from theoretical calculated position as located in plan or elevation in relation to established floor lines, column lines and other fixed elements of the structure, including variations from plumb and level:
 - a. 1/8-in. maximum variation in any column-to-column space, floor-to-floor height or 20-ft. run.
4. Offsets: Offsets in end-to-end or edge-to-edge alignment of consecutive members:
 - a. 1/16-in. maximum offset in any alignment.

3.6 FIELD QUALITY CONTROL FOR EXTERIOR WINDOWS

- A. Contractor's Quality Control Responsibilities: Contractor is solely responsible for quality control of the Work.
- B. Water Penetration Test: After completion of the installation and nominal curing of sealants, and glazing compounds, and before installation of interior trim members, finishes and heating unit covers, test exterior windows for water leaks in accordance with AAMA Standard 501.2 "Specifications for Field Check of Metal Curtain Walls for Water Leakage." Provide powered scaffold, hose, radios, water supply and manpower to perform scheduled tests. Conduct tests in the presence of the Professional. Correct deficiencies observed as a result of this test.
- C. Pressure Chamber Field Tests: Furnish portable test apparatus in accordance with AAMA 502, "Voluntary Specification for Field Testing of Windows and Sliding Glass Doors" consisting of a pressurized enclosure sealed against the aluminum window on the indoor side, and a spray rack of pipe grid with nozzles to spray water onto the exterior of the window. Provide test apparatus equivalent in size to mock-up, unless directed otherwise.
 1. Air Infiltration: Test for resistance to air infiltration using static air pressure difference in accordance with AAMA 502 and ASTM E783 "Field Measurement of Air Leakage Through Installed Exterior Windows and Doors." Test at 6.24 psf test pressure.
 2. Water Penetration: Test for water penetration in accordance with AAMA 502 and ASTM E1105 requirements. Test at pressure at 20% of design pressure or 12 psf whichever is greater.
 3. Test Locations: Test areas shall be at location(s) indicated by Professional. Perform tests after completion of the installation and nominal curing of sealants, and before installation of interior trim members and heating unit covers. Conduct one successful test for each location.

3.7 DEPARTMENT'S QUALITY ASSURANCE SERVICES

- A. Quality Assurance Services: Independent Testing and Inspection Agency(ies), engaged at the Department's expense through the Professional, will perform the following activities to monitor the Contractor's Quality Control Services. The Department's Quality Assurance Services monitoring of activities do not relieve the Contractor of responsibilities under the Contract.

- B. Contractor's Assistance to the Quality Assurance Services: Furnish the Department's Quality Assurance Services with access to the Work, materials and facilities as required by the Agency(ies). Provide adequate notice of construction activities to allow timely inspections and observation of Contractor tests, and be available for pre-installation meetings. Furnish the Department's Testing and Inspection Agency(ies), with on-site office facilities.
- C. Department's Testing and Inspection Program: Testing and inspection will be performed by an independent testing agency(s) retained by the Department as specified herein.
1. The Departments shall retain a Quality Control Agent to perform testing and inspection services for the aluminum window work required for the Project including but not limited to inspection and testing of work at the project site and, if work is performed off site, inspection and testing of work in fabrication plants.
 2. The Departments Quality Control Agent shall perform full-time inspection and testing of the aluminum window work during construction at timely occurrences to satisfy governing authority having jurisdiction and the quality control established for the Project by the Contract Documents.
 3. The Department's independent testing agency work includes but is not limited to the following:
 - a. Weld Testing: Non-destructive testing of support steel welds, utilizing one of the following test methods which best suits the types of welds to be tested.
 - 1) Liquid penetrant test.
 - 2) Magnetic particle test.
 - 3) Radiographic test.
 - 4) Ultrasonic test.
 - b. Paint Testing: Perform tests to determine the total dry film thickness of coatings applied to painted ferrous metal members. Shop and Site test units at random throughout construction.
 - c. Inspection Compliance: Verification of the compliance of; or the deficiencies of the following:
 - 1) Building Superstructure: Examination surveys of the superstructure substrates and supports to receive the aluminum windows and applicable corrective work performed, if any. Verification that the supporting structure is properly aligned and within the designed tolerances and without missing or mislocated inserts.
 - 2) Aluminum Window Components: Verification that the framing components are properly sized and aligned, are without missing or mislocated anchoring provisions and are without structural defects. Verification that primed and painted components are provided with the specified materials.
 - 3) Connections and Anchors: Verification that anchors are properly placed, welded or bolted. Verification that correct anchoring and/or materials are used in lieu of others where there are field

changes. Inspection of welding and bolting where connections are stressed to 50% or more of allowable values. Verification of the calibration of wrenches, review of bolting procedures and inspection of joint surfaces prior to bolting for bolted connections related to the aluminum windows. Verification of welder's license, qualifications and welding procedures for welds related to the aluminum windows. Verification of proper welding or bolting of reset connections.

- 4) Joints and Sealants: Verification that movement joints have been provided, and verification that joints are free from obstructions. Confirmation that accepted sealant materials are provided. Verification that sealant joints are properly sealed, and that materials are of sufficient elongation for movement anticipated. The recording of any unanticipated movement or displacement beyond performance criteria.
 - 5) Glass and Glazing: Verification that the aluminum window glass is not defective and that the glazing gaskets meet specifications. Verification that the location and size of setting and edge blocks are suitable and meet specifications.
 - 6) Flashings and Drainage: Verification that flashings are the proper materials, are properly installed and that end dams are sealed. Verification that weeps and tubes are installed and are functional.
- d. Observation Compliance of Aluminum Window Subcontractor's Testing Program
- 1) Laboratory Testing Mock-Up: Observation, as the Department's representative, of laboratory mock-up construction and mock-up testing of Aluminum Window assembly, for the required testing as specified in Section 080355 Exterior Enclosure Mock-Up and Testing.
 - 2) Field Tests: Observation, as the Department's representative, of field testing of aluminum window assembly, for the required Field Water Test: AAMA 501.2 as specified herein.

3.8 ADJUSTING

- A. Adjustment: Adjust operating sash of operable aluminum windows to provide an even, tight fit at contact points and weather stripping for smooth operation and weather tight closure. Adjust operable aluminum windows to operate smoothly with hardware and operators functioning properly. Lubricate hardware and other moving parts. Remove and replace any defective parts.
- B. Touch-Up to Powder Coated Paint System: Touch up all damaged, scratched, marred or abraded exposed baked organic coatings utilizing manufacturer/fabricator approved air dried fluoropolymer resinous, or other paint system in matching colors and sheen using means and methods as recommended by the manufacturer. Obtain Professional's approval of finished touch-up.

3.9 CLEANING

- A. Maintenance of Installation: Maintain the aluminum windows throughout the construction period in a clean and properly protected condition so that it will not be damaged at the time of acceptance by the Department. Cleaning and protective methods shall be carefully selected, applied and maintained so that finishes will not become uneven or otherwise impaired as a result of unequal exposure to light and weathering. Remove deleterious materials from surfaces of aluminum and glass immediately. Protect glass from breakage immediately upon installation. Use streamers or ribbons suitably attached to framing and held free of the glass. Do not apply warning markings directly to the glass.
- B. Cleaning: Upon completion of installation, wash exposed surfaces to leave clean and free from blemishes. Clean excess sealant or compound from glass and framing members immediately after application using solvents or cleaners recommended by manufacturers.

3.10 PROTECTION

- A. Protection: Protect the Work during erection and construction to avoid non-uniformity of appearance or other defects in the Work. When requested for inspection of finishes, remove and replace temporary protection. Remove protection when no longer required.

END OF SECTION

SECTION 113000
RESIDENTIAL APPLIANCES

PART 1 - GENERAL

1.1 SUMMARY

- A. Stipulations:
1. The specifications sections "General Conditions to the Construction Contract", "Special Conditions" and "Division 01 - General Requirements" form a part of this Section by this reference thereto, and shall have the same force and effect as if printed herewith in full.
- B. General: Provide residential appliances and installation provisions for appliances supplied by Department in accordance with requirements of the Contract Documents.
- A. Section includes, but not limited to, the following:
1. ~~REQ-01: Washing Machine.~~
 2. ~~REQ-02: Dryer.~~
 - 3.1. **REQ-013** through **REQ-08**: Residential appliances.
- B. Related Requirements:
1. All necessary roughing-in required for the appliances as specified in Section 055000 "Metal Fabrications."
 2. All necessary roughing-in of mechanical, plumbing, and electrical connections required for the appliances complete with final connections, including electrical, communications and other utility line connections required to properly operate the appliances specified herein.
 3. Finish painting of exposed metal surfaces requiring painting other than prefinished items is specified in Section 099100, "Painting".
- C. Sustainable Design Requirements: Provide the Work, and submit documentation, as necessary for compliance with sustainable requirements specified in Section 018113, "Sustainable Design Requirements".

1.2 DEFINITIONS

- A. Department Furnished Contractor Installed (OFCI): Appliances that will be furnished by the Department for installation by the Contractor. The Contractor shall be responsible for coordinating substrate and installation requirements as well as coordinating appliance dimensions. The Contractor shall be responsible for mechanical, electrical, and A/V connections as well as final installation and integration of these appliances with the Work.

1.3 REFERENCES

- A. General: Comply with the applicable provisions of the referenced standards except as

modified by governing codes and the Contract Documents. Where a recommendation or suggestion occurs in the referenced standards, such recommendation or suggestion shall be considered mandatory. In the event of conflict between referenced standards, this specification or within themselves, the more stringent standard or requirement shall govern.

1. National Association of Architectural Metal Manufacturers (NAAMM): NAAMM "Metal Finishes Manual".
2. Industrial Fasteners Institute (IFI): "Fastener Standards Book."

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's literature, specifications and installation instructions describing the general properties of each piece of appliance and accessory to be used in the Work.
- B. Shop Drawings: Submit shop drawings for the fabrication and installation of the Work including details of each type of appliance, anchorage and accessory items. Prepare details at not less than 3 in. = 1 ft. minimum scale.
- C. Samples: Furnish sufficient samples to establish the full range of colors and textures for materials exposed in the finished work. Compliance with other requirements is the responsibility of the Contractor. Submit the following:
- D. Closeout Submittals: submit the following:
 1. Warranties: Submit warranties as specified.
 2. Maintenance Data: Submit the following:
 - a. Maintenance schedule for all operable appliances.
 - b. Maintenance Manuals: Two (2) copies of bound maintenance manuals, describing the materials, and procedures for cleaning and maintaining each piece of equipment. Include manufacturer's data describing the materials and finishes used in the work including parts lists.

1.5 QUALITY CONTROL

- A. Qualified Installer: The residential appliances work shall be performed by a firm having 5 years experience in the installation of specified appliances on comparable projects. The installer shall provide evidence of successful completion of work of similar scope to that shown and specified for this Project using similar appliances and as approved by product manufacturers.
- B. Sole Source Responsibility: Obtain appliances from one source of a single manufacturer for each piece of appliances for the entire project. Each manufacturer shall furnish evidence that the specified materials have been manufactured by the same source and successfully utilized on a yearly basis for a minimum of 5 years on projects of a similar scope to that shown and specified for this Project.
 1. The catalog numbers specified herein are from the current catalogs of the respective manufacturers and establish minimum standards of design, dimension and quality unless otherwise modified. Appliances manufactured by others will be

considered provided all requirements specified herein are satisfied.

- C. Regulatory Requirements: Comply with applicable requirements of the laws, codes, ordinances and regulations of Federal, State and Municipal authorities having jurisdiction. Obtain necessary approvals from authorities having jurisdiction
- D. Pre-Installation Meeting: Prior to the start of the Work, meet at the Project site to review material selections, methods and sequence of installation, special details and conditions, standard of workmanship, quality control requirements, job organization, coordination with other trades, and other pertinent topics related to the Work.

1.6 **DELIVERY, STORAGE, AND HANDLING**

- A. Packing, Shipping, Handling, and Unloading: Pack, ship and handle components in accordance with manufacturer's instructions. Protect appliances and components during transit, delivery, storage, and handling to prevent damage, soilage, and deterioration. Do not deliver appliances until painting, wet work, grinding, and similar operations that could damage, soil, or deteriorate appliances have been completed in installation areas.
- B. Storage and Protection: Store components in a dry, well ventilated space, off the ground and covered with non-staining protective wrapping. Cover and keep covered with non-staining protective wrapping.

1.7 **WARRANTIES**

- A. General: Warranties and guaranties specified in this Article shall not deprive the Department of other rights the Department may have under other provisions of the Contract Documents and are in addition to and run concurrent with other warranties and guaranties made by the Contractor under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.1 **Residential Appliances**

- A. ~~Washer (Type REQ-01 through REQ-05): Not Used (FF&E). Provide the following or approved equal:~~

~~1. Manufacturer:~~

~~a. Maytag~~

~~Single Load Front Load Washer 60hz
MHN33PRCWW
No Coin Drop or Card Reader
208v Electrical Kit~~

~~b. Whirlpool~~

~~3.1 cu. ft. High Efficiency White Front Load Commercial Washing~~

~~c. Speed Queen~~

~~Electric Homestyle Front Load Washer~~

- B. ~~Dryer (Type REQ-02): Provide the following or approved equal:~~

~~1. Manufacturer:~~

- a. ~~Maytag~~
Commercial Electrical Large Capacity Stack Dryer
MLE26PRBYW
No Coin Drop or Card Reader
208v Electrical Kit
- b. ~~Whirlpool~~
Whirlpool Commercial 7.4 Cu Ft Commercial Electric Dryer
CSP2970HQ
- c. ~~Speed Queen~~
Electric Homestyle Stacked Double Dryer

~~_____ Microwave (Type REQ-03): Not Used (FF&E)~~

~~G. _____ Full Size Refrigerator (Type REQ-04): Provide the following or approved equal:~~

~~1. _____ Manufacturer:~~

- a. ~~Maytag~~
33 Inch Wide Top Freezer Refrigerator With Evenair™ Cooling Tower-
21 Cu. Ft.
MRT711SMFZ
- b. ~~LG~~
Top Freezer Refrigerator
LRTLS2403S
- c. ~~WHIRLPOOL~~
33 inch Wide Top Freezer Refrigerator – 21 cu. ft.
WRT541SZDZ

~~D. _____ Mini Refrigerator (Type REQ-05): Provide the following or approved equal, integrated into architectural woodwork:~~

~~1. _____ Manufacturer:~~

- a. ~~Walsh~~
Compact Refrigerator
WSR35S1
- b. ~~Magic Chef~~
Mini Refrigerator
HMR440SE
- c. ~~WHIRLPOOL~~
Mini Refrigerator
WHR31TS4E

~~E.B. Coffee Maker (Type REQ-06): See Food Service Documents.~~

~~F.C. Dishwasher – 24 in. (Type REQ-07): Provide the following or approved equal:~~

1. Manufacturer:
 - a. Maytag
MDB9959SKZ
 - b. LG
LSDTS9882S
 - c. WHIRLPOOL
WDF550SAHS

~~G-D.~~ Under Counter Ice Maker (**Type REQ-08**): Provide the following or approved equal:

1. Manufacturer:
 - a. HOSHIZAKI 31 ½ in.
AM-50BAJ-AD
 - b. ICE-O-MATIC 31 in.
UCG100A

PART 3 - EXECUTION

3.1 GENERAL

- A. Manufacturer's Instructions: Prepare substrates and erect the work of this Section, including appliances, components, and accessories in accordance with the manufacturer's instructions, except where more stringent requirements are shown or specified, and where project conditions require extra precautions or provisions to ensure satisfactory performance of the Work.

3.2 EXAMINATION

- A. Verification of Conditions: Examine the areas to receive the Work and the conditions under which the Work would be performed. Remedy conditions detrimental to the proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.3 PREPARATION

- A. Substrate Acceptability: Commencement of installation shall constitute acceptance of substrate conditions by the Installer
- B. Deliver items which are to be built into the work of other sections in time so as not to delay the progress of the Work.

3.4 INSTALLATION

- A. Install the Work of this Section in accordance with manufacturer's written installation instructions, so that completed installation is in perfect operating condition.
- B. Install operating appliances complete with necessary hardware, anchors, inserts, hangers, and appliances supports in accordance with final shop drawings, manufacturer's

written instructions, and as specified herein. Install items within the clearances and space limitations shown.

- C. Perform all necessary cutting, drilling and fitting required to accommodate electrical and mechanical services.
- D. Uncrate appliances and anchor or fasten to floors, walls or ceilings as required. Make appliances complete and ready to receive final utility connections. Appliances set in place level and true.
- E. Dimensions shown on Drawings are based on an assumed design temperature of 70 deg. F. Fabrication and erection procedures shall take into account the ambient temperature range at the time of the respective operations.
- F. Do not erect members which are warped, bowed, deformed or otherwise damaged to such extent as to impair strength or appearance. Remove and replace members damaged in the process of erection.
- G. Dielectric Separator: Separate dissimilar metals and metals in contact with concrete or masonry with a dielectric separator.
- H. Touch-up marred and abraded surfaces with the specified prime paint after erection in the field. Touch-up galvanized surfaces in accordance with ASTM A780.

3.5 TESTS

- A. Start-up, adjust and test appliances to demonstrate compliance with specified performance requirements of the specifications.

3.6 CLEANING

- A. At a time as directed by the Department, remove all temporary protection and leave the installation clean and free of any imperfections.

END OF SECTION

SECTION 119010
RANGE EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Stipulations:
 - 1. The specifications sections “General Conditions to the Construction Contract”, “Special Conditions” and “Division 01 - General Requirements” form a part of this Section by this reference thereto, and shall have the same force and effect as if printed herewith in full.
- B. General: Provide Range Equipment in accordance with requirements of the Contract Documents.
- C. Section Includes the Following:
 - 1. **RNG-01:** Indoor Rubber Berm Trap
 - 2. **RNG-02:** Running Man Targets
 - 3. **RNG-03:** Lateral Target Turners
 - 4. **RNG-04:** Range Control System
 - 5. **RNG-05:** Ballistic Ceiling Baffles
 - 6. **RNG-06:** Ballistic Rubber Wall
 - 7. **RNG-07:** Acoustic Wall Panels

1.2 REFERENCES

- A. General: Comply with the applicable provisions of the referenced standards except as modified by governing codes and the Contract Documents. Where a recommendation or suggestion occurs in the referenced standards, such recommendation or suggestion shall be considered mandatory. In the event of a conflict between referenced standards, this specification or within themselves, the more stringent standard or requirement shall govern:
- B. Reference Standards:
 - 1. National Institute of Occupational Safety and Health (NIOSH):
 - a. NIOSH 76-130 - Lead Exposure and Design Considerations for Indoor Firing Ranges.
 - 2. Underwriters Laboratories (UL):
 - a. UL 94 HB - Horizontal Burning.
 - b. UL 94 - Standard for Safety of Flammability of Plastic Materials for Parts in Devices and Appliances.
 - c. UL 752 - Standard for Bullet-Resisting Equipment.
 - 3. ASTM International (ASTM):
 - a. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.

- b. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Materials.
- 4. International Organization for Standardization (ISO):
 - a. ISO 9001 - Quality Management.
 - b. ISO 14001 - Environmental Management.
- 5. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA).
- 6. U.S. Environmental Protection Agency (EPA):
 - a. EPA 40 CFR 50.12 - National Primary and Secondary Ambient Air Quality Standards for Lead.
- 7. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA).
- 8. Society for Protective Coatings (SSPC):
 - a. SSPC-SP6 - Commercial Blast Cleaning.
- 9. Conveyor Equipment Manufacturers Association (CEMA).
- 10. Unified Facility Criteria (UFC)
 - a. UFC 4-179-02 Small Arms Ranges
- 11. OSHA
 - a. OSHA CFR 29 1910.95 – Occupational Noise exposure
 - b. OSHA CFR 29 1910.1025 - Lead

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Delegated Design Submittals, General: Submittals for wall, ceiling and trap assemblies indicated (**RNG-01 to RNG-07**) shall comply with performance requirements, including relevant analysis, acoustical, and ballistic data. Any structural assemblies must be signed by the Contractor's qualified Professional Engineer in the Commonwealth of Pennsylvania responsible for their preparation.
- C. Product Data: Submit for Professional's action. Manufacturer's literature, specifications and installation instructions describing the general properties of each material and accessory to be used in the Work. Include the following:
 - 1. Manufacturer's data sheets on each product to be used, specific to the project, showing the specified options vendor will supply for the project.
 - a. Include Acoustic Sound Absorption Test Reports on each assembly (walls and ceiling).

2. Preparation instructions and recommendations.
3. Storage and handling requirements and recommendations.
4. Typical installation methods.

D. Samples:

1. Provide (2) samples of each wall and ceiling finish – size: 12"x12" minimum

E. Shop Drawings: Submit for Professional's action. Manufacturer approved shop drawings for the fabrication and installation of the Work. Prepare details at appropriate scale to show the Work. Provide the following.

1. Details of materials, construction, and finish. Include relationship with adjacent construction.
2. Include all electrical data and connection details. Coordinate all details on drawings of the exact locations.

F. Quality Control Submittals: Submit for Professional's information.

1. Certificates:

- a. Document Review: Before commencing work, submit a written statement signed by the Contractor and the Applicator certifying that the Contract Documents, shop drawings and product data have been reviewed with material manufacturers' qualified technical representatives and that they agree the selected materials are proper, compatible with contiguous materials and adequate for the application shown.
- b. Certification signed by manufacturer of system components certifying that their products comply with specified requirements, comply with UL designations shown and is approved for use by local authorities having jurisdiction.

G. Closeout Submittals: Submit for Department's documentation.

1. Warranties: Special warranties as specified.
2. Ambient and Live Fire Noise Level Testing
 - a. Per UFC 4-179-02

The contractor must provide certified test results showing that the ambient and live fire noise levels within the range and areas designated in the UFC do not exceed levels shown in Figure below and OSHA guidelines for exposure limits, and must provide test results showing that peak and impulse noise levels on the range and areas designated in the UFC do not exceed OSHA guidelines for exposure limits.

- All Ambient and peak noise level measurements must be taken with all range equipment on, including the air handling and dust collection systems, and no gun fire.

- All live fire noise levels must be taken with all range equipment on and with continuous gunfire from four Department provided shooters firing the maximum caliber design weapon, at full automatic if

Table 4-3 Maximum Noise Levels

	Maximum Ambient Noise Levels (dBA)	Maximum Live Fire Noise Levels (dBA)
Inside the Firing Range	75	Sound Decay Rate Test
Inside the Range Control Booth	60	85
Offices	45	55
Classrooms	45	55

applicable, and using ball ammunition. Firing must be from the most uprange firing line without using suppressors.

3. Maintenance Manuals:
4. Maintenance Data: Submit the following:
 - a. Maintenance schedule for all operable equipment
 1. Maintenance Manuals: Two (2) copies of bound maintenance manuals, describing the materials, and procedures for cleaning and maintaining each piece of equipment. Include manufacturer's data describing the materials and finishes used in the work including parts lists. Assemble manuals for component parts into single binders identified for each system.

1.4 QUALITY ASSURANCE

- A. Contractor's Quality Control Responsibilities: Contractor is solely responsible for quality control of the Work.
- B. Regulatory Requirements: Comply with applicable requirements of the laws, codes, ordinances and regulations of authorities having jurisdiction. Obtain necessary approvals from all such authorities.
- C. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum 10 years documented experience.
- D. Equipment Installer Qualifications: Company specializing in performing Work of this section. Minimum five years documented experience with projects of similar scope and complexity.
 1. Installation shall be under the direct supervision of the Manufacturer.
- E. Source Limitations: Provide each product type from single manufacturer ensuring uniformity.

- F. Basis of Design: When particular manufacturers' materials, products or processes are specified for an item of Work, any one thereof is acceptable for the Contractor to choose. An alternative material, product or process will be considered if the Contractor submits a written substitution request per the requirements for substitutions in this section to the Professional to assist the Professional in determining whether the proposed substitution is acceptable; the burden of proof rests solely upon the Contractor.
- G. Substitutions:
1. Contractor is solely responsible to fully meet the quality and full functional and performance requirements outlined in the specifications. Minor variations are acceptable with Department and Professional written approval prior to bidding. No variations are permissible in quality, performance capabilities or material specified. Quality and performance are the criterium used by the Professional in determining if a substitution is acceptable not cost.
 2. No unapproved prototypes will be allowed. A prototype is defined as a product that has not been in service for at least 3 years.
 3. Variations in design or operation of equipment require the submittal of a list of substitutions to the Department and Professional. The submittal shall include a detailed explanation of any and all deviations and individual line-item compliance certifications for each deviation and substitution. This information must be submitted and received by the Department and Professional for review and approval at least 10 Days prior to the bid date.
 4. Substitution proposal must include samples of all proposed product supplied to the Department and Professional. Samples shall be working models of the exact dimensions proposed.
 5. All substitution proposals shall list all proposed equipment and services, item by item, with detailed explanations stating why the items are equal to the specified item. Proposals with substitutions shall include the manufacturer's specifications, cut sheets, and other data needed to demonstrate complete compliance with the specified requirements.
 6. Substitution proposal shall list no less than five clients who have the same equipment that is being proposed. List must have full project name, address, POC with Phone & Email, completion date and project value.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. General: Deliver and store materials in manufacturer's original packaging, labeled to show name, brand, type, and grade. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
- B. Deliver all equipment boxed or crated to provide protection during transit and job storage.
- C. Inspect equipment upon delivery for damage. Minor damages may be repaired, provided the finish items are equal in all respects to new work and acceptable to the Department and Professional; otherwise, remove and replace damaged items immediately.
- D. Store equipment at the site under cover in a secured place. Store equipment off the floor and in a manner to promote air circulation. Avoid the use of non-vented plastic or canvas shelters that could create a humidity chamber.
- E. Project Conditions: Projects Prime Contractor to maintain environmental conditions

(temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.6 SEQUENCING

- A. Supply products to affected trades in time to prevent interruption of construction progress.

1.7 WARRANTY

- A. General: Warranties and guaranties specified in this Article shall not deprive the Department of other rights the Department may have under other provisions of the Contract Documents and are in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.
- B. Manufacturer's Warranty: Provide manufacturer's standard limited warranty for defects in workmanship and materials for a period of one (1) year from the date of substantial completion.
- C. The manufacturer shall instruct the Department as to the proper operation and maintenance of the equipment at time of acceptance of the work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with requirements, products by one of the following, or approved equal:
 - 1. Action Target Inc., 3411 Mountain Vista Pkwy., Provo, UT 84606.
 - 2. Inveris Training Solutions, 296 Brogdon Road, Suwanee, GA 30024.
 - 3. Range Systems 5121 Winnetka Ave N New Hope, MN 55428
- B. Products of other manufacturers will be considered only if evidence is furnished showing compliance with the minimum design and performance requirements specified.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 RNG-01 RUBBER BERM TRAP

- A. Description: Designed for all small arms including handguns, shotguns, and rifles. Utilizes specialty treated rubber granulate made from recycled materials, that safely stops bullets and maintains their basic original shape, thus minimizing broken up lead particles released into the atmosphere. Allows recovery of largely intact spent rounds.
- B. Performance Criteria
 - 1. Ballistic Rating: Designed for all small arms including handguns, shotguns using 00 buck shot or higher, and rifles with a maximum velocity of 3600 FPS and maximum energy of 3600 ft. lbs.
 - a. Independently tested to validate ballistic standards.

2. Comply with structural requirements. Structural stamp provided by licensed professional engineer in Pennsylvania
 - a. Deck Plate: Secure to framework with Grade 5 nuts and bolts in horizontal and vertical directions.
 - b. Toe of Deck Plate: Anchors to concrete floor creating a structural diaphragm.
 - c. Structural strap.
3. Construction:
 - a. Free standing.
 - b. Self-supporting.
 - c. Frame: Galvanized steel with interlocking and bolted connections.
4. Height: As required to protect range with Bottom of Range Baffles
5. Capacity: 80,000 rounds per lane.
6. Contains no EPA regulated materials or water-absorbing material.
7. No exposed metal surfaces in the target shooting zone.
8. Rubber Granules
 - a. Chopped rubber, free of metal parts.
 - b. Media: Chopped or granulated rubber, 1.25 in (32 mm) average size, pure SBR, and 99.9 percent free of loose wire and exposed steel.
 - c. Minimum Depth: Perpendicular deck plane, 24 inches (610 mm); horizontal shooting depth, 48 inches (1219 mm).
 - d. Captures fired rounds with little or no fragmentation or back-splatter.
 - e. Fire retardant treated with treatment that meets ASTM E108 Class A standards.
 - f. Meets ASTM E84 Class A requirements for flame spread and smoke development.
 - g. Allows for use of oblique angles for shooting.
 - h. Shall not require rear access for cleaning or service.
9. Deck Plate and Back Plate: 1/4 inch AR-500 armor deck plate and back plate.
10. Sidewalls: 3/8 inch AR-500 armor plate and back plate or minimum required to meet ballistic rating.

- a. Plates shall cover both trap area sidewalls in the bullet trap.
 - b. Plates must only have vertical seams and no horizontal seams.
11. Eyebrow Protection (if required): 3/8 inch AR-500 armor plate and back plate or minimum required to meet ballistic rating.
12. AR-500 armor plate shall:
- a. Have a factory applied coat of primer / paint.
 - b. Complies with UL 752 standards for Level 8 protection.
 - c. Independently tested to validate ballistic standards.
13. Maximum 30 degrees from horizontal
14. Back Plate Fascia: Replaceable 1-1/2 inch (38 mm) thick SBR panel.
15. Fire Protection: ASTM E108, Class A.
16. The bullet trap shall allow the recovery of largely intact spent rounds.
17. No on-the-job cutting or welding shall be required or allowed.
18. All metal parts not otherwise finished or plated shall be primed and painted.

2.3 RNG-02 RUNNING MAN TARGETS

- A. Description: Running Man Target system with parallel tracks
- B. Performance Requirements:
 1. Runner: Computerized programmable control system
 - a. Mounting: Ceiling Mounted
 - b. Downrange Control Panel: UL listed
 2. Wireless Control
 - a. Proximity Sensors: Reset trolley position and compensate for any drift.
 - b. Electrical Requirements: Operate on 208-240 volt single phase 20 A service.
 - c. Two lateral, parallel carriers, independent from one another.
 - d. Performance Requirements:
 - 1) Automatic track length detection.
 - 2) Automatic trolley drift compensation.
 - 3) Change trolley direction and speed while moving.

- 4) Intelligent error reporting:
 - a) Cable slip detection.
 - b) Drive errors.
 - c) Proximity sensor errors.
 - d) Wiring errors.
 - 5) Status monitoring.
 - 6) Calibration.
 - 7) Data logging.
3. AR-500 armor plate shall:
- a. Have a factory applied coat of primer / paint.
 - b. Complies with UL 752 standards for Level 8 protection.
 - c. Independently tested to validate ballistic standards.

2.4 RNG-03 TARGET TURNERS

- A. Description: Allows targets to be repositioned laterally along a fixed rail without the use of tools. It will slide left and right for positioning in groups or creating open spaces on the range. Used in conjunction with the running man target system, these targets can represent bystanders or perpetrators to simulate real-world scenarios.
- B. Performance Requirements:
1. 360 Turning
 2. Ceiling Rail Mounted
 3. AR 500 Ballistically rated armor plate.
 4. Targets may be controlled individually or simultaneously.
 5. Targets are easy to reposition in groups or divide laterally as needed.
 6. Integrates with range control software for advanced features and functionality.
 7. AR-500 armor plate shall:
 - a. Have a factory applied coat of primer / paint.
 - b. Complies with UL 752 standards for Level 8 protection.
 - c. Up to 3,888 fps and energy level up to 3,600 ft/lbs.

- d. Independently tested to validate ballistic standards.
- e. No armor piercing, enhanced penetration, or incendiary rounds allowed.

2.5 RNG-04 RANGE CONTROLS

A. Description: Control for Targetry and HVAC – Maybe combined or separate systems

1. HVAC Control:

Integrates with recirculation and purge HVAC systems.

- a. Realtime status monitoring.
- b. Temperature and system control.
- c. Humidity monitoring.
- d. Provides visual reference of remaining filter life.
- e. Displays errors, warnings, faults and critical alarms on interface.
- f. Alerts and calls a cease fire when unsafe air conditions exist. The alert is wired to a strobe in the control room and on the range.
- g. Wired to the “Range in Use” light outside the range. Light goes on when the HVAC system is turned on.

2. Targetry Controls

- a. Advanced scenario building for writing and executing complex courses of fire.
- b. Save unlimited courses of fire programs in local pc storage.
- c. Integrated Target Timers: To control specified target presentation times for accurate qualification metrics.
- d. Organize targets into groups for individual or simultaneous operations.
- e. Integrated range layout configurator for dynamic modification of course layouts.
- f. Integrates with running man targets and 360 target turners
- g. Provides Input/Output command control for external devices.
- h. Control System: Wireless Tablet (quantity of 2) and Control Room Desktop

2.6 RNG-05 INDOOR RANGE CEILING BAFFLES

A. Description: Range Ceiling protection Designed to enclose the Range Ceiling for ballistic and acoustical purposes. Shelters the ceiling area and redirects rounds toward the bullet trap and minimizes bullet splatter from exiting the panel or returning to the open range area.

B. Performance Requirements:

1. 3/8 inch AR-500 armor plate panels required to meet UL 752 Level 8 – Up to 3,888 fps and energy level up to 3,600 ft/lbs. No armor piercing, enhanced penetration, or incendiary rounds allowed.

2. Configuration: Tactical Baffles with overlapping plates set at 10 degrees.

3. Acoustic Material

a. Acoustic Performance of Assembly to meet: NRC .85 or higher meeting the below testing criteria. It shall be ballistically safe as certified by the Contractor and Manufacturer.

1) Meet UFC 4-179-02: 4-20.5.1 Sound Decay Rate Testing

The acoustic design must include mitigation methods and construction materials to reduce the measured Reverberation Time 60dB (RT60) to less than 1.3 seconds in the 250 Hz, 500 Hz, 1 kHz, 2 kHz, and 4 kHz octave bands in accordance with ASTM E2235. Testing must be performed, post installation, in accordance with ASTM E2235 with noise generating devices placed at the firing line meeting testing requirements listed in this document and OSHA noise exposure limits. Aim device parallel with the line of fire when not using omni-directional devices. The contractor must provide certified test results showing that the reverberation time and noise exposure limit requirements are met. Independently tested to validate ballistic standards.

b. Compliant with ASTM E-84 Class 1 flammability requirements and UL 1715 corner burn test

c. Passes UL 94.

d. Passes ASTM G 21 for fungus resistance and UL 121 for microbial growth.

e. Sound Absorption Coefficients per ASTM C423.

f. Acoustic Material must meet the Following minimum octave band absorption requirements:

125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz
0.15	0.39	0.61	0.75	0.85	0.99

4. No protrusions not complying with design drawings

5. Provide an enclosure plate between baffles. Provide shop drawings detailing this for coordination with lights and sprinklers.

6. Provide AR500 closure plate over target area and trap to prevent bullets from escaping range in this area.
7. Connection type: Structural flexible cable hangers per International Building Code (IBC) for areas that require a structural stamp for baffling.
8. Wall Attachment: 12" Concrete Walls – see drawings.
9. Splatter protection with Air Gap; Fire Treated 1" minimum thickness. Splatter protection thickness can double as acoustical material.
10. Coverage: Full Length of the Range, see drawings.
11. No gaps are allowed through which bullet fragments may pass.
12. AR-500 armor plate shall:
 - a. Have a factory applied coat of primer / paint.
 - b. Complies with UL 752 standards for Level 8 protection.
 - c. Up to 3,888 fps and energy level up to 3,600 ft/lbs.
 - d. Independently tested to validate ballistic standards.
 - e. No armor piercing, enhanced penetration, or incendiary rounds allowed.
13. Drawings depict conceptual baffle layouts. Final Baffle layouts, arrangement, finish and details by Vendor to meet performance criteria in specifications.
14. Color: Gray, factory finish.

2.7 RNG-06 BALLISTIC RUBBER PANELS

1. Description: Composite recycled vulcanized rubber with a urethane binder and ballistic steel armor plate. Steel panel system to allow **180** degree multi-direction firing within the range towards the bullet trap.
2. Use in conjunction with AR 500 armor plate, see drawings for substrate Provides ballistic barrier that contains bullet splatter and lead dust.
3. Coverage: See drawings. Start of Ballistic rubber walls shall align with the start of the safety ceiling.
4. Size: 24 x 24 x 2 inches (610 x 610 x 51 mm).
5. Durometer: 60 Shore A. Plus or minus 5.
6. Intumescent UL E-84 fire retardant.
7. Splatter protection with Air Gap; Fire Treated
8. Acoustical sound absorption surface meeting NRC. 65 and shall be ballistically safe as certified by the Contractor and Manufacturer.

- a. Independently tested to validate ballistic standards
 - b. Independently tested to validate acoustic standards
9. Acoustic Material:
- a. Compliant with ASTM E-84 Class 1 flammability requirements and UL 1715 corner burn test
 - b. Passes UL 94.
 - c. Passes ASTM G 21 for fungus resistance and UL 121 for microbial growth.
 - d. Sound Absorption Coefficients per ASTM C423.
10. No gaps are allowed through which bullet fragments may pass.
11. AR-500 armor plate shall:
- a. Have a factory applied coat of primer / paint.
 - b. Complies with UL 752 standards for Level 8 protection.
 - c. Up to 3,888 fps and energy level up to 3,600 ft/lbs.
 - d. Independently tested to validate ballistic standards.
12. Color: Black

2.8 RNG-07 ACOUSTIC WALL PANELS

- 1. Wall Attachment: See Drawings
- 2. Splatter protection with Air Gap; Fire Treated
- 3. Coverage: See drawings
- 1. Acoustic Material
 - a. Acoustic Performance of Assembly to meet: NRC .85 or higher meeting the below testing criteria.
 - 1) Meet UFC 4-179-02: 4-20.5.1 Sound Decay Rate Testing

The acoustic design must include mitigation methods and construction materials to reduce the measured Reverberation Time 60dB (RT60) to less than 1.3 seconds in the 250 Hz, 500 Hz, 1 kHz, 2 kHz, and 4 kHz octave bands in accordance with ASTM E2235. Testing must be performed, post installation, in accordance with ASTM E2235 with noise generating devices placed at the firing line meeting testing requirements listed in this document and OSHA noise exposure limits. Aim device parallel with the line of fire when not using omni-directional devices. The contractor must provide certified test results showing that the reverberation time and noise exposure limit requirements are met.

- b. Compliant with ASTM E-84 Class 1 flammability requirements and UL 1715 corner burn test
 - c. Passes UL 94.
 - d. Passes ASTM G 21 for fungus resistance and UL 121 for microbial growth.
 - e. Sound Absorption Coefficients per ASTM C423.
2. Color: Gray – factory finished.

PART 3 - EXECUTION

3.1 GENERAL

- A. Manufacturer's Instructions: Prepare substrates and install the Work of this Section; including components, accessories in accordance with the manufacturer's instructions, except where more stringent requirements are shown or specified, and where project conditions, require extra precautions or provisions to ensure satisfactory performance of the Work.

3.2 EXAMINATION

- A. Verification of Conditions: Examine the areas to receive the Work and the conditions under which the Work would be performed. Remedy conditions detrimental to the proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.3 PREPARATION

- A. Substrate Acceptability: Commencement of installation shall constitute acceptance of substrate conditions by the Installer.

3.4 INSTALLATION

- A. Install in accordance with manufacturer's instructions, approved submittals and in proper relationship with adjacent construction.

3.5 FIELD QUALITY CONTROL

- A. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.
- B. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01

3.6 ADJUSTING

- A. Test the functionality of all systems, safety systems, target systems and control systems.
- B. Correct any deficiencies and replace any equipment not operating as required.

3.8 PROTECTION

- A. Clean products in accordance with the manufacturer's recommendations.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

3.9 TESTING

- A. The contractor must provide certified test results showing that the reverberation time and noise exposure limit requirements are met after installation per UFC 4-179-02: 4-20.5.1 Sound Decay Rate Testing and OSHA 1910.95 noise exposure limit requirements.

END OF SECTION

Pre-Bid Meeting
BDISBO Presentation



DGS C-0211-0005 Phase 5 REBID PA State Police Academy –
Core Bldgs., - BESO & Site work

Presenter - Lisa Sanford, BDISBO Director

June 16, 2023



What's the Point?



Including
Small DIVERSE
and
VETERAN-owned
Businesses



Three Distinct Programs

SDBs and VBEs must be certified/valid as of bid close due date and time.

Small Business Eligibility Requirements

General Assembly
established criteria

- Must be for-profit U.S. business
- Must be independently owned
- May not be dominant in its field of operation
- May not employ 100+ FTEs
- May not exceed 3year avg gross revenues of \$38.5 Million, regardless of business type (effective 11/1/2018).

Small Diverse Business (SDB)

Goal oriented

- Minority Business Enterprise (MBE)
- Woman Business Enterprise (WBE)
- Service-Disabled Veteran Business Enterprise (SDVBE)
- LGBT Business Enterprise (LGBTBE)
- Disability-Owned Business Enterprise (DOBE)

Veteran Business Enterprise (VBE)

Goal oriented

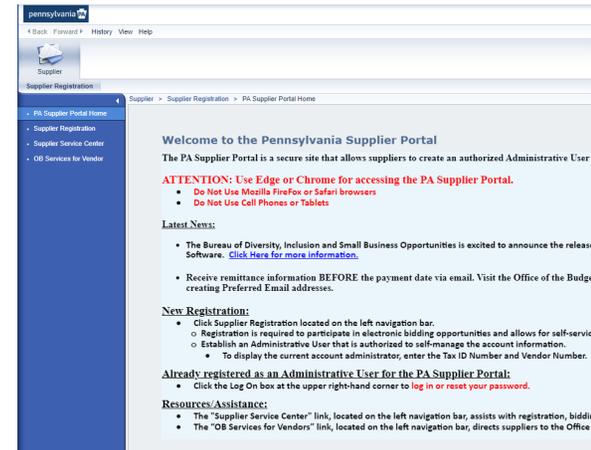
- Veteran Business Enterprise (VBE)
- Service-Disabled Veteran Business Enterprise (SDVBE)



Find Plans at No Cost

All proposers must be registered to view/download Plans and Specifications and must have a Current, Active Vendor Number.

To register click the following link: [register](#)



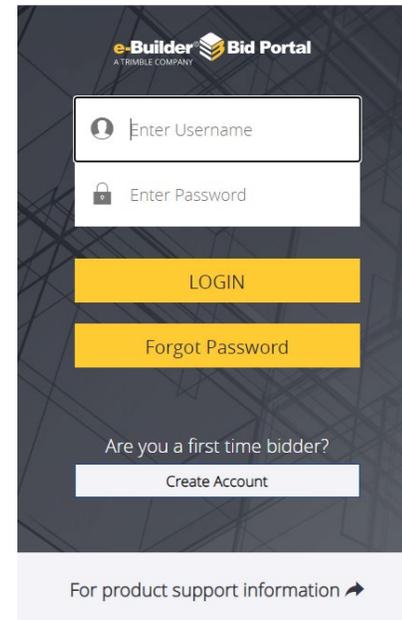
All Proposers are required to create a user profile within e-Builder. Please click on discipline below to create a user profile and view the bid package:

[General Construction](#)

[HVAC Construction](#)

[Plumbing Construction](#)

[Electrical Construction](#)



Solicitation Specific Goals

DGS C-0211-0005 Phase 5 PA State Police Academy and BESO - Modernization	SDB	VBE
.1 General Construction ALL BASE BIDS (#1, #2, #3)	30%	5%
.2 HVAC Construction – ALL BASE BIDS (#1, #2, #3)	20%	5%
.3 Plumbing Construction – ALL BASE BIDS (#1, #2, #3)	10%	5%
.4 Electrical Construction ALL BASE BIDS (#1, #2, #3)	13%	5%



Subcontracting Notes

- Available subcontracting opportunities across the entire state for applicable **supplies and services**
- Availability of **DGS-verified** SDB/VBEs to perform commercially useful functions

A Bidder/Offeror's failure to meet the SDB participation goal in full and the VBE participation goal in full, or their failure to receive an approved Good Faith Efforts waiver for any unmet portion of either the SDB or VBE participation goal will result in the rejection of the Bid or Proposal as nonresponsive.



Serious about Compliance

Active Contracts

Contract Value with compliance required CV(cr): \$59,226,310.00

Name	Start Date	End Date	Goal	Commit %	Commit \$	Spend FYTD	Attain FYTD (CV)	Attain FYTD (PP)	Spend Total	Attain Total (CV) %	Attain Total (PP) %
[Redacted]	12/08/2020	01/07/2027	SDB	3.91%	\$2,316,340.99	\$960,075.23	1.62%	10.18%	\$1,468,855.01	2.48%	3.38%
[Redacted]	12/08/2020	01/07/2027	SDB	0.70%	\$413,399.64	\$29,900.00	0.05%	0.32%	\$180,642.00	0.31%	0.42%
[Redacted]	12/08/2020	01/07/2027	SDB	5.23%	\$3,097,536.02	\$1,252,747.05	2.12%	13.28%	\$1,541,347.22	2.60%	3.54%
[Redacted]	12/08/2020	01/07/2027	SDB	3.94%	\$2,330,555.30	\$1,366,888.79	2.31%	14.49%	\$2,151,382.48	3.63%	4.95%
[Redacted]	12/08/2020	01/07/2027	SDB	1.31%	\$774,680.14	\$469,561.70	0.79%	4.98%	\$3,535,180.10	5.97%	8.13%
[Redacted]	12/08/2020	01/07/2027	SDB	2.06%	\$1,218,285.20	\$80,369.60	0.14%	0.85%	\$699,319.54	1.18%	1.61%
[Redacted]	12/08/2020	01/07/2027	SDB	1.46%	\$863,519.60	\$210,921.90	0.36%	2.24%	\$236,980.90	0.40%	0.55%
[Redacted]	12/08/2020	01/12/2023	SDB	0.20%	\$120,821.67	\$147,075.78	0.25%	1.56%	\$147,075.78	0.25%	0.34%
[Redacted]	12/08/2020	01/07/2027	SDB	0.79%	\$464,926.53	\$455,586.78	0.77%	4.83%	\$2,696,669.48	4.55%	6.20%
[Redacted]	12/08/2020	01/07/2027	SDB	1.80%	\$1,086,073.58	\$181,751.35	0.31%	1.93%	\$247,833.35	0.42%	0.57%
Total					\$12,666,136.67	\$5,154,878.16	8.72%	54.65%	\$12,907,285.88	21.79%	29.68%

Show Attainment by Program

Hide Attainment by Role

Role	Commitment		FYTD Attainment			Contract Life Attainment		
	Commit %	Commit \$	Spend	Attainment Contract Value	Attainment Prime Payments	Spend	Attainment Contract Value	Attainment Prime Payments
SDB	21.39%	\$12,666,136.67	\$5,154,878.16	8.70%	54.65%	\$12,907,285.88	21.79%	29.68%
Total	21.39%	\$12,666,136.67	\$5,154,878.16	8.70%	54.65%	\$12,907,285.88	21.79%	29.68%

BDISBO has newly trained professionals

Expect inquiries and site visits

Open Door Policy



Finding SDB/VBE vendors

- <http://www.dgs.internet.state.pa.us/suppliersearch>
- Access Search Guide - <https://www.dgs.pa.gov/Small%20Diverse%20Business%20Program/Documents/Finding%20SBs%20and%20SDBs.pdf>
- Supplier Search assistance available from Issuing Officer or BDISBO Representative Paula Murphy Pmurphy@pa.gov



Upcoming DGS Supplier Search Trainings

The training will focus on the basics of the supplier search process including recognizing the UNSPSC Codes Structure, accessing the DGS Supplier Search Database and Searching for Small, Small Diverse and Small Veteran Owned Businesses to gain a better understanding of supplier search results.

The 30-minute sessions will be offered via Teams on-line presentations on the following dates in 2023: **(No RSVP Required)**

Targeted Audience (External): Potential prime contractors that conduct business with the commonwealth who want to learn the basics of finding DGS certified small diverse and veteran owned businesses.

- June 29th, 10:00 am– 10:30 am
- July 13th, 10:00 am – 10:30 am
- July 27th, 10:00 am – 10:30 am

Microsoft Teams meeting
Join on your computer or mobile app
[Click here to join the meeting](#)

Meeting ID: 293 754 842 172

Passcode: Uhqm2D

[Download Teams](#) | [Join on the web](#)

Or call in (audio only)

[+1 267-332-8737,,690952530#](#) United States, Philadelphia

Phone Conference ID: 690 952 530#

[Find a local number](#) | [Reset PIN](#)

Recording or transcription of this meeting may not occur without consent of all participants, as required by law, and must adhere to Commonwealth policies. For more information click the legal link.

[Learn More](#) | [Meeting options](#) | [Legal](#)

BDISBO
**News, Media &
Events Page**



NEVER USE Quick Search



Supplier Search

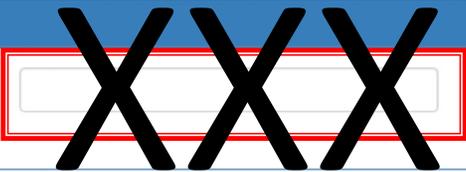
Home PA eMarketplace Search Contracts

Note: The below searches (Quick Search and Advanced Search) will search suppliers who are qualified for one or more Invitation to Qualify (ITQ) Contracts AND suppliers registered with the Bureau of Diversity, Inclusion and Small Business Opportunities (BDISBO) as a small business or small diverse business. Use the Quick Search to search by Vendor Name or Vendor Number. Use the Advanced Search to search by Small, Small Diverse, ITQ Contracts, COSTARS and UNSPC codes.

Quick Search

Supplier Name or SAP Number Search Reset

Advanced Search



IMPORTANT: Always click **Reset** prior to a new search to clear parameters from previous searches

Show 10 entries

Export to Excel Reset Search Criteria

Supplier (click on name to display full record)	Contact	Address	SB Validity Dates	SDB Validity Dates	VBE Validity Dates	COSTARS
21ST CENTURY MEDIA NEWSPAPER LLC	ROBERT BUTKINS sales@nittanyvalley.com					No
22 GROUP, LLC ()	Caroline M. Harper	757 PUBLIC RD	9/23/2019-	9/23/2019-		No

<http://www.dgs.internet.state.pa.us/suppliersearch>



Advanced Search

Supplier Classifications

- Minority Business Enterprise
- Woman Business Enterprise
- LGBT Business Enterprise
- Disabled-Owned Business Enterprise
- Service-Disabled Veteran Business Enterprise
- Veteran Business Enterprise
- Small Business
- Stocking Supplier
- Non-Stocking Supplier

Select all Classifications
 Select all Small Diverse Business Classifications

← Select one or more classifications. To pull only SDBs, check "Select all Small Diverse Business Classifications" below. To include SBs, check "Small Business".

Find only vendors that have all selected classifications
 Find only vendors that have at least one selected classification

UNSPSC Description

Enter a brief code description (e.g. Door)

Type in any part of a UNSPSC code description to find vendors who have selected that UNSPSC code. ex: Landscaping will find vendors who have selected any UNSPSC code that has landscaping anywhere in the description. Click here to download the entire list in Excel format.

← OR ↓

UNSPSC Codes

- 10000000 - Live Plant and Animal Material and Accessories and Supplies
- 11000000 - Mineral and Textile and Inedible Plant and Animal Materials
- 12000000 - Chemicals including Bio Chemicals and Gas Materials
- 13000000 - Resin and Rosin and Rubber and Foam and Film and Elastomeric Materials
- 14000000 - Paper Materials and Products
- 15000000 - Fuels and Fuel Additives and Lubricants and Anti corrosive Materials
- 20000000 - Mining and Well Drilling Machinery and Accessories
- 21000000 - Farming and Fishing and Forestry and Wildlife Machinery and Accessories
- 22000000 - Building and Construction Machinery and Accessories
- 23000000 - Industrial Manufacturing and Processing Machinery and Accessories
- 24000000 - Material Handling and Conditioning and Storage Machinery and their Accessories and
- 25000000 - Commercial and Military and Private Vehicles and their Accessories and Components
- 26000000 - Power Generation and Distribution Machinery and Accessories

Click arrow to expand Segment for additional codes

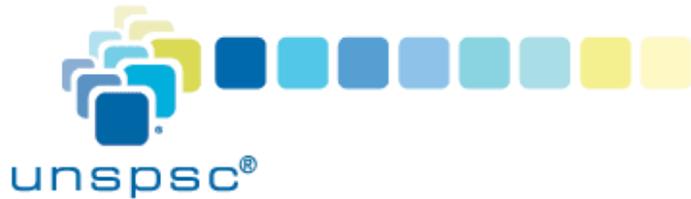
Browse and select one or more codes. Don't know the codes you want? Download the entire list in Excel.

See slide 13 to understand the UNSPSC code hierarchy.

Find only vendors that have all selected UNSPSC codes
 Find only vendors that have at least one selected UNSPSC code



UNSPSC Commodity Code Search



Find A Partner

Menu

UNv24.0301 of the UNSPSC Codeset is now available. [Access codesets.](#)

Search the Code

Version 24.0301
Code Number: (2-8
digits)

Code Name:

Welcome

The **United Nations Standard Products and Services Code® (UNSPSC®)**, managed by GS1 US® for the UN Development Programme (UNDP), is an open, global, multi-sector standard for efficient, accurate classification of products and services.

The UNSPSC offers a single global classification system that can be used for:

- Company-wide visibility of spend analysis
- Cost-effective procurement optimization
- Full exploitation of electronic commerce capabilities



UNSPSC Commodity Code Search

Write down
your code
selections



[HOME](#) [FAQS](#) [SUBSCRIBE](#) [LIBRARY](#) [CODESET-DOWNLOADS](#) [INITIATIVES](#) [EDUCATION](#) [FINDAPARTNER](#)

Version 24.0301

Search Code

Search Title

Code	Title
31211900	Paint applicators and painting accessories
60121001	Paintings
60121225	Watercolor painting mediums
60124101	Multicultural painting products
72151300	Painting and paper hanging services
72151301	Residential painting service
72151302	Commercial painting service
72151303	Industrial painting service
72151304	Aircraft painting service
72151305	Bridge painting service
72151307	Ship painting service
73181104	Painting services
78181501	Vehicle body repair or painting service
78181836	Aircraft fixed wing coating and painting service
86121502	Painting



Advanced Search

Use multiple filters to restrict your search results to exactly what and where you need.

PA Counties

- Grant County
- Clearfield County
- Clinton County
- Columbia County
- Crawford County
- Cumberland County
- Dauphin County
- Delaware County
- Elk County
- Erie County

Select all Counties

Find only vendors that s

Find only vendors that s

Supplier Classifications

- Minority Business Enterprise
- Woman Business Enterprise
- LGBT Business Enterprise
- Disabled-Owned Business Enterprise
- Service-Disabled Veteran-Owned Business Enterprise
- Veteran Business Enterprise
- Small Business
- Stocking Supplier
- Non-Stocking Supplier

UNSPSC Codes

- 30100000 - Structural components and basic shapes
- 30110000 - Concrete and cement and plaster
- 30120000 - Roads and landscape
- 30130000 - Structural building products
- 30140000 - Insulation
- 30150000 - Exterior finishing materials
 - 30151500 - Roofing materials
 - 30151600 - Roofing accessories
 - 30151700 - Rain gutters and accessories
 - 30151800 - Siding and exterior wall materials
 - 30151900 - Finishing materials and products
 - 30152000 - Fencing

Find only vendors that have all selected UNSPSC codes

Find only vendors that have at least one selected UNSPSC code



Search Results

Advanced Search

Show 25 entries

Export to Excel Reset Search Criteria

Supplier (click on name to display full record)	Contact	Address	SB Validity Dates	SDB Validity Dates	VBE Validity Dates	COSTARS
ADVANCED AUDIO VISUAL SALES INC	JOHN GREENE DIRECTOR OF SALES John.Green@advancedav.com (Phone) 610-719-6194 (Fax) 610-692-8421	208 CARTER DRIVE SUITE 7 WEST CHESTER, PENNSYLVANIA 19382 (Phone) 610-719-6194				No
ADVANCED BUILDING CONTROLS LLC (DBA ADVANCED BUILDING CONTROLS LLC)	Craig Connelly CCONNELLY@ADVANCEDBLDGCNTOLS.COM (Phone) 215-520-9964	PO BOX 303 HOLICONG, PENNSYLVANIA 18928 (Phone) 215-520-9964	2/11/2019-2/28/2021			No
ADVANCED BUILDING PERFORMANCE INC ()	Pei Pei Cavalier PEIPEI@ABPCX.COM (Phone) 301-760-9989	11225 HURDLE HILL DR POTOMAC, MARYLAND 20854 (Phone) 301-760-9989 abpcx.com	12/20/2019-12/20/2021	12/20/2019-12/20/2021		No
ADVANCED CLEANING SOLUTIONS LLC (ADVANCED CLEANING SOLUTIONS LLC)	Nicholas Ward cleanteam@advancedsolutionsPA.com (Phone) 610-597-0012	PO BOX 3223 ALLENTOWN, PENNSYLVANIA 18106	2/27/2018-3/21/2020	2/27/2018-3/31/2020	2/27/2018-3/31/2020	No

Certified Small Businesses

- Advanced Building Controls LLC
- Advanced Building Performance Inc
- Advanced Cleaning Solutions LLC

Small Diverse Businesses

- Advanced Building Performance Inc
- Advanced Cleaning Solutions LLC

Veteran Business Enterprise

- Advanced Cleaning Solutions LLC



Supplier Profile

Name:	ADVANCED CLEANING SOLUTIONS LLC
SAP Number:	511377
Doing Business As:	ADVANCED CLEANING SOLUTIONS LLC
Other Names:	
Keywords:	
Web site:	
SB Validity Dates:	02/27/2018 - 03/31/2020
SDB Validity Dates:	02/27/2018 - 03/31/2020
VBE Validity Dates:	02/27/2018 - 03/31/2020
COSTARS Participant:	No

← SB, SDB & VBE Expiration Dates

Supplier Classifications

- Small Business
- Service-Disabled Veteran Business Enterprise
- Veteran Business Enterprise

← SB, SDB & VBE Classifications

Contact Information

Contacts

Contact Type	Contact Details	Phone
CORPORATE	Email: CLEANTEAM@ADVANCEDSOLUTIONSPA.COM	
SB MAIN	Nicholas Ward Title: Email: cleanteam@advancedsolutionsPA.com	610-597-0012



Search Results

Advanced Search

Show entries

[Export to Excel](#) [Reset Search Criteria](#)

Supplier (click on name to display full record)	Contact	Address	SB Validity Dates	DB Validity Dates	VBE Validity Dates	COSTARS
ADVANCED AUDIO VISUAL SALES INC	JOHN GREENE DIRECTOR OF SALES John.Green@advancedav.com (Phone) 610-719-6194 (Fax) 610-692-8421	208 CARTER DRIVE SUITE 7 WEST CHESTER, PENNSYLVANIA 19382 (Phone) 610-719-6194				No
ADVANCED BUILDING CONTROLS LLC (DBA ADVANCED BUILDING CONTROLS LLC)	Craig Connelly CCONNELLY@ADVANCEDBLDGGCONTOLS.COM (Phone) 215-520-9964	PO BOX 303 HOLICONG, PENNSYLVANIA 18928 (Phone) 215-520-9964	2/11/2019-2/28/2021			No
ADVANCED BUILDING PERFORMANCE INC ()	Pei Pei Cavalier PEIPEI@ABPCX.COM (Phone) 301-760-9989	11225 HURDLE HILL DR POTOMAC, MARYLAND 20854 (Phone) 301-760-9989 abpcx.com	12/20/2019-12/20/2021	12/20/2019-12/20/2021		No
ADVANCED CLEANING SOLUTIONS LLC (ADVANCED CLEANING SOLUTIONS LLC)	Nicholas Ward cleanteam@advancedsolutionsPA.com (Phone) 610-597-0012	PO BOX 3223 ALLENTOWN, PENNSYLVANIA 18106	2/27/2018-3/31/2020	2/27/2018-3/31/2020	2/27/2018-3/31/2020	No

Certified Small Businesses

- Advanced Building Controls LLC
- Advanced Building Performance Inc
- Advanced Cleaning Solutions LLC

Small Diverse Businesses

- Advanced Building Performance Inc
- Advanced Cleaning Solutions LLC

Veteran Business Enterprise

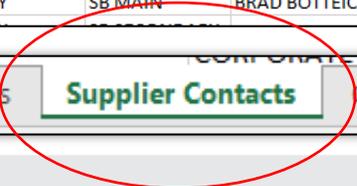
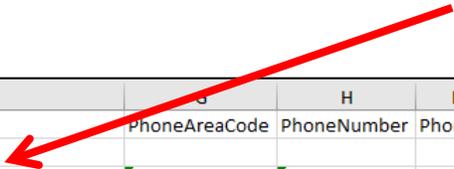
- Advanced Cleaning Solutions LLC



Excel Export Results – Supplier Contacts

Excel Export Results includes Vendor ID, Supplier Name, Contact Name, Email, Phone, Fax

	A	B	C	D	E	F	G	H	I	J	K
1	SAP Number	Supplier Name	Contact Name	Name	Title	Email	PhoneAreaCode	PhoneNumber	PhoneEx	FaxAreaCo	FaxNumber
2	104279	CA WEISS SALES LLC	CORPORATE			caweiss@comcast.net					
3	104279	CA WEISS SALES LLC	SB MAIN	KRISTY ZARICHNIAK		kristyz@comcast.net	610	4588864		610	4588875
4	119565	DUFF SUPPLY COMPANY	CORPORATE	ALEX DUFFINE	VP	DFRANK@DUFFCOMPANY.COM	610	2754453	147	610	2796299
5	119565	DUFF SUPPLY COMPANY	REMITTO	BARB COHEN		bcohen@duffco.com	610	2754453	149	610	2756761
6	119565	DUFF SUPPLY COMPANY	SB MAIN	ALEX DUFFINE		aduffine@duffco.com	610	2754453			
7	119565	DUFF SUPPLY COMPANY	SB SECONDARY			info@duffco.com					
8	122594	HOUCK SERVICES INC	CORPORATE			jherrold@houcks.com					
9	122594	HOUCK SERVICES INC	SB MAIN	JARROD HERROLD		jherrold@houcks.com	717	6573302		717	6579805
10	122594	HOUCK SERVICES INC	SB SECONDARY			kgussler@houcks.com					
11	134717	PENN STATE ELECTRIC MECHANICAL	CORPORATE			razmataz33@aol.com					
12	134717	PENN STATE ELECTRIC MECHANICAL	SB MAIN	RAZ SUGARWALA		razmataz33@aol.com	717	2992090		717	2992297
13	134717	PENN STATE ELECTRIC MECHANICAL	SB SECONDARY			ksing6027@yahoo.com					
14	135270	BARBARA J SALES ASSOC INC	CORPORATE			barb@barbarajsles.com					
15	135270	BARBARA J SALES ASSOC INC	SB MAIN	BARBARA SMITH		barb@barbarajsales.com	412	5233398		800	8137122
16	135270	BARBARA J SALES ASSOC INC	SB SECONDARY			willsmith@willjservices.com					
17	137893	IDA YEAGER SALES INC	CORPORATE			idayeagersales@zoominternet.net					
18	137893	IDA YEAGER SALES INC	SB MAIN	IDA LAQUATRAYEAGER		idayeagersales@zoominternet.net	724	4525260		724	4521072
19	144061	CONSTRUCTION TOOL SERVICE INC	CORPORATE			ehuss@constructiontoolservice.com					
20	144061	CONSTRUCTION TOOL SERVICE INC	SB MAIN	BETTY CONNELLY		bconnelly@constructiontoolservice.com	412	6816673		412	6819185
21	144061	CONSTRUCTION TOOL SERVICE INC	SB SECONDARY			bcgoodwork@aol.com					
22	145576	BURKE & MICHAEL INC	CORPORATE			MARYFRANCES@BURKEANDMICHAEL.COM					
23	145576	BURKE & MICHAEL INC	SB MAIN	MARY FRANCES HOGAN		maryfrances@burkeandmichael.com	412	3212301		412	3214582
24	153927	COOPER TRADING INC	CORPORATE			cti@ctipa.com					
25	153927	COOPER TRADING INC	SB MAIN	PETER COOPER		pete@ctipa.com	724	8618830		724	8618832
26	153927	COOPER TRADING INC	SB SECONDARY			debbie@ctipa.com					
27	157009	CONTRACT HARDWARE AND SUPPLY	CORPORATE			cristil@chsupplyinc.com					
28	157009	CONTRACT HARDWARE AND SUPPLY	SB MAIN	BRAD BOTTEICHER		bradb@chsupplyinc.com	814	9412340		814	9412342



Suppliers	Supplier Addresses	Supplier Contacts	Counties	Supplier Classifications	ITQs	ITQ Contracts	UNSPSC Codes
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New Forms and Processes

- SDB/VBE Instructions – *SDB-1/VBE-1* *READ*
- SDB/VBE Participation Submittal – *SDB-2/VBE-2*
- SDB/VBE Utilization Schedule – *SDB-3/VBE-3*
- Letter of Commitment – *SDB 3.1/VBE-3.1* MAJOR REVISION
- Guidance for Good Faith Effort (GFE) Waiver – *SDB-4/VBE-4* *READ*
- GFE Waiver – *SDB-5/VBE-5*



Locating SDB/VBE Packets

**Bid packages available in
e-Builder in the
Package Invitation/Bid Info
in the Invitation
Documents folder**



SDB/VBE Forms in e-Builder

Pennsylvania Department of General Services / PA State Police Academy and BESO - Modernization

↳ C-0211-0005.1 P5 PA State Police Academy and BESO - Modernization

Status

Bid Package	Open
Bidding	Pending
Response Submitted	No

46 Days 4 Hours 38 Minutes Left

Due on 11.15.2022 at 2:00 PM
(GMT-05:00) Eastern Time (US & Canada)

Summary 0.00

Base Bid Total	0.00
Base Bid 2 Total	0.00

Package Invitation Response Form Q&A Board

Accept Decline

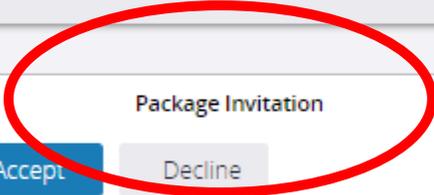
Bid Info Invitation Documents (29) Agendas (2)

Hide All | Show All

Click this icon  to download files. Clicking the icon next to a folder will download all files and subfolders within it.

File / Folder Name	Uploaded on	File Size
 01 Bid Documents (4)	05.20.2019 4:03 PM	
 BidWithdrawal(BWITH)082522094029.doc Version 1	08.25.2022 9:42 AM	67.58 KB

Scroll down to find SDB and VBE Participation Packets



Solicitation-Specific Goals

SDB-1 INSTRUCTIONS FOR COMPLETING THE SMALL DIVERSE BUSINESS (SDB) PARTICIPATION SUBMITTAL AND SDB UTILIZATION SCHEDULE.

PLEASE READ BEFORE COMPLETING THESE DOCUMENTS
Bidders/Offerors do not need to return SDB-1 with their SDB Participation Submittal

The following instructions include details for completing the SDB Participation Submittal (SDB-2) which Bidders or Offerors must submit in order to be considered responsive.

The following instructions also include details for completing the SDB Utilization Schedule (SDB-3) which Bidders or Offerors must submit for any portion of the SDB participation goal the Bidder or Offeror commits to meeting.

A Bidder/Offeror's failure to meet the SDB participation goal in full or their failure to receive an approved Good Faith Efforts waiver for any unmet portion of the SDB participation goal will result in the rejection of the Bid or Proposal as nonresponsive.

I. SDB Participation Goal: The SDB participation goal is set forth in the Solicitation. The Bidder/Offeror is encouraged to use a diverse group of subcontractors and suppliers from the SDB classifications to meet the SDB participation goal.

II. SDB Eligibility:

1. Finding SDB firms: Offerors can access the directory of DGS-verified SDB firms from the DGS Supplier Search directory at: <http://www.dgs.internet.state.pa.us/suppliersearch>.

Only SDBs verified by DGS and as defined herein may be counted for purposes of achieving the SDB participation goal. In order to be counted for purposes of achieving the SDB participation goal, the SDB firm, including an SDB prime, must be DGS-verified for the services, materials or supplies that it has committed to perform.

- a. SDB prime bidders or offerors. An SDB prime firm whose SDB verification is pending or incomplete as of the bid or proposal due date and time may not satisfy the SDB participation goal through its own performance. A self-certified SB prime that does

Pennsylvania Department of General Services



SDB Submittal – SDB-2

SDB-2 SDB PARTICIPATION SUBMITTAL

Bidder/Offeror: NEW Solicitation # : NEW
Solicitation Title: NEW
Discipline: _____ (.1 GC, .2 HVAC, .3 Plumbing, or .4 Electrical)
Base Bid: _____ (identify the corresponding Base Bid for this SDB Participation Submittal)

CHECK ONE, AND ONLY ONE, BOX. FAILURE TO COMPLY WILL RESULT IN REJECTION OF YOUR BID/PROPOSAL.

I agree to meet I am requesting a partial I am requesting a full

participation
goal in full.

I have completed and am submitting with my bid or proposal an **SDB Utilization Schedule (SDB-3)**, which is required in order to be considered

participation goal.

After making good faith outreach efforts as more fully described in the **Guidance for Documenting Good Faith Efforts to Meet the SDB Participation Goal**, I am unable to achieve the total SDB participation goal for this solicitation and am requesting a partial waiver of the SDB participation goal.

I have completed and am

participation goal

After making good faith outreach efforts as more fully described in the **Guidance for Documenting Good Faith Efforts to Meet the SDB Participation Goal**, I am unable to achieve any part of the SDB participation goal for this solicitation and am requesting a full

CRITICAL

✓ Check One, and Only One, Box



SDB Utilization Schedule – SDB-3

CRITICAL
 ✓ Verify SDB/VBE validity

SDB-3 SDB UTILIZATION SCHEDULE

Offeror: NEW
 Solicitation #: _____ Solicitation Title: _____

List in the chart below SDBs (including where applicable a prime bidder or offeror is self-performing a portion of the work) that will be used to meet the SDB participation goal (add additional pages if necessary). Submit a **Letter of Commitment (SDB-3.1)** for each SDB subcontractor, supplier, or manufacturer (add additional Letters of Commitment as necessary).

SDB Name SAP Vendor Number (6-digit number provided by SDB) SDB Verification Number (located on DGS SDB verification)	Type of SDB (check all that apply)	Description of Work to be Performed (Statement of Work/Specification reference)	% Commitment (or % of work to be self-performed by SDB bidder/offeror)	Dollar Value of Commitment (after applying any calculation per SDB-1, Section IV, Calculating SDB participation)
Name: <u>ABC IT Solutions</u> SAP Vendor Number: <u>123456</u> SDB Verification Number: <u>123456-2023-09-SB-M</u>	<input checked="" type="checkbox"/> MBE	IT staffing resources	%	\$
Name: _____ SAP Vendor Number: _____ SDB Verification Number: _____	<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> LGBTBE <input type="checkbox"/> DOBE <input type="checkbox"/> SDVBE		%	
Name: _____ SAP Vendor Number: _____ SDB Verification Number: _____	<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> LGBTBE <input type="checkbox"/> DOBE <input type="checkbox"/> SDVBE		%	
Name: _____ SAP Vendor Number: _____ SDB Verification Number: _____	<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> LGBTBE <input type="checkbox"/> DOBE <input type="checkbox"/> SDVBE <input type="checkbox"/> MRF			



60% Rule Applies to Supplies

SDB stocking suppliers. An SDB stocking supplier is a firm that owns, operates or maintains a store, warehouse or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock and regularly sold or leased to the public in the usual course of business. 60% of the total cost of the materials or supplies purchased from the SDB stocking supplier shall be counted towards the SDB participation goal.

Example for illustrative purposes of applying the 60% rule:

Overall contract value: \$2,000,000 Total value of supplies: \$100,000

Apply 60% Rule: $\$100,000 \times 60\% = \$60,000$ Divide 60% Rule result by contract value: $\$60,000 / \$2,000,000 = 3\%$

In this example, 3% would be counted towards the SDB participation goal for the SDB supplier.



60% Rule Example

SDB-3 SDB UTILIZATION SCHEDULE

Bidder/Offeror: _____

Solicitation #: _____ Solicitation Title: _____

List in the chart below SDBs (including where applicable a prime bidder or offeror is self-performing a portion of the work) that will be used to meet the SDB participation goal (add additional pages if necessary). Submit a **Letter of Commitment (SDB-3.1)** for each SDB subcontractor, supplier, or manufacturer (add additional Letters of Commitment as necessary).

SDB Name SAP Vendor Number (6-digit number provided by SDB) SDB Verification Number (located on DGS SDB verification)	Type of SDB (check all that apply)	Description of Work to be Performed (Statement of Work/Specification reference)	% Commitment (or % of work to be self-performed by SDB bidder/offeror)	Dollar Value of Commitment (after applying any calculation per SDB-1, Section IV, Calculating SDB participation)
Name: ABC IT Solutions SAP Vendor Number: 123456 SDB Verification Number: 1234567890123456	<input checked="" type="checkbox"/> MBE	IT staffing resources	%	\$60,000
Name: _____ SAP Vendor Number: _____ SDB Verification Number: _____	<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> LGTBTE <input type="checkbox"/> DOBE <input type="checkbox"/> SDVBE		%	↑
Name: _____ SAP Vendor Number: _____ SDB Verification Number: _____	<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> LGTBTE <input type="checkbox"/> DOBE <input type="checkbox"/> SDVBE <input type="checkbox"/> MRF		%	

Allowable credit toward goal

SDB-3.1 LETTER OF COMMITMENT

This Letter of Commitment serves as confirmation of the commitment by the prime Bidder or Offeror to utilize the Small Diverse Business (SDB) on the below-referenced Solicitation/Project.

Solicitation #: _____ Solicitation Name: _____

	Bidder/Offeror Information	SDB Information
Name		
Address		DGS-
Point of Contact		Verified SDB
Telephone #		Supplier
Email address		

Services/Supplies and Time Frame. If Bidder/Offeror is the successful vendor, the SDB shall perform or provide the following services or supplies during the term of the prime contract, as more specifically set forth below:

Services or supplies the SDB will provide:	
Specific Time Frame the SDB will provide the services or supplies:	

Dollar Value of Commitment. These service or supplies for contract/fee indicated in the table below shall be for the term of the contract.

COMMITMENT TABLE	Total Contract/Fee Commitment Value	Allowable Participation Percentage	Allowable Participation Value equals Dollar Value Commitment on SDB-3
	(c)	(d)	(c) x (d) = (e)
SDB Subcontractor - performs at least 50% of the value of the subcontract with its own forces		100%	
SDB Manufacturer - produces on premise material, supplies, articles or equipment required for contract.		100%	
SDB Stocking Suppliers - maintains materials on premises that are bought and stored and required for the contract.	\$100,000	60%	\$60,000
SDB Non-stocking Supplier - Service Fee Only - Does not carry inventory.		100%	

SDB verified. By signing below, the SDB represents that it meets the SDB requirements set forth in the Solicitation and all required documentation has been provided to the Bidder/Offeror for its SDB submission.

Sincerely, _____
Bidder/Offeror Point of Contact Printed name

_____ SDB Point of Contact Printed name

Amount payable to Supplier



Letter of Commitment SDB-3.1

CRITICAL
 ✓ Complete all shaded areas.

SDB-3.1 LETTER OF COMMITMENT

This Letter of Commitment serves as confirmation of the commitment by the prime Bidder or Offeror to utilize the Small Diverse Business (SDB) on the below-referenced Solicitation/Project.

Solicitation #: _____ Solicitation Name: _____

	Bidder/Offeror Information	SDB Information
Name		
Address		
Point of Contact		
Telephone #		
Email address		

Services/Supplies and Time Frame. If Bidder/Offeror is the successful vendor, the SDB shall perform or provide the following services or supplies during the term of the prime contract, as more specifically set forth below:

Services or supplies the SDB will provide:	
Specific Time Frame the SDB will provide the services or supplies:	

Dollar Value of Commitment. These service or supplies for contract/fee indicated in the table below shall be for the term of the contract.

COMMITMENT TABLE	Total Contract/Fee Commitment Value (c)	Allowable Participation Percentage (d)	Allowable Participation Value equals Dollar Value Commitment on SDB-3 (c) x (d) = (e)
SDB Subcontractor - performs at least 50% of the value of the subcontract with its own forces		100%	
SDB Manufacturer - produces on premise material, supplies, articles or equipment required for contract.		100%	
SDB Stocking Suppliers - maintains materials on premises that are bought and stored and required for the contract.		60%	
SDB Non-stocking Supplier - Service Fee Only -Does not carry inventory.		100%	

SDB verified. By signing below, the SDB represents that it meets the SDB requirements set forth in the Solicitation and all required documentation has been provided to the Bidder/Offeror for its SDB submission.

Sincerely, _____ Acknowledged _____

Bidder/Offeror Point of Contact Printed name SDB Point of Contact Printed name

SDB to expect a letter and SIGN it!



Guidance to Document GFE SDB-4

READ, READ, READ

- The ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the Offeror of the responsibility to make Good Faith Efforts to meet the stated participation goal.
- Prime must complete all components of the GFE paperwork. Details/Evidence are important, proof is required.
- Carefully review SDB and VBE submittal Instructions, specifically Section VI of SDB/VBE-1 which lists pertinent items as Fatal errors.



Good Faith Efforts Packet SDB-5

Good Faith Efforts (GFE) Partial or Full Waiver

- Identified Items of Work Applicant Made Available to SDBs (Part 1)
- Identified SDBs and Record of Solicitations (Part 2)
- SDB Outreach Compliance Statement (Part 3)
- Additional Information Regarding Rejected SDB Quotes (Part 4)
- SDB Subcontractor Unavailability Certificate (Part 5)



SDB GFE Documentation – SDB-5

SDB-5

GOOD FAITH EFFORTS DOCUMENTATION TO SUPPORT WAIVER REQUEST OF SDB PARTICIPATION GOAL

Project Description:	
Commonwealth Agency Name:	
Solicitation #:	
Solicitation Due Date and Time:	
Bidder/Offeror Company Name:	
Bidder/Offeror Contact Name:	
Bidder/Offeror Contact Email:	
Bidder/Offeror Contact Phone Number:	

Complete all five parts

Part 1 – Identified Items of Work Offeror Made Available to SDBs

Identify those items of work that the Offeror made available to SDBs. This includes, where appropriate, those items the Offeror identified and subdivided into economically feasible units to facilitate the SDB participation. For each item listed, show the anticipated percentage of the total contract amount. It is the Offeror's responsibility to demonstrate that enough work to meet the SDB participation goal was made available to SDBs, and the total percentage of the items of work identified for SDB participation met or exceeded the SDB participation goal set for the procurement.

Identified Items of Work	Was this work listed in the solicitation?	Does Offeror normally self-perform this work?	Was this work made available to SDB Firms? If not, explain why.
	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no



GFE Waiver – Part 1

Identified Items of Work Offeror Made Available to SDBs

Identify those items of work that the Offeror made available to SDBs. This includes, where appropriate, those items the Offeror identified and subdivided into feasible units to facilitate the SDB participation. For each item listed, show the anticipated percentage of the total contract cost that will be made available to SDBs, and the total percentage of the total contract cost that will be made available to SDBs, and the total percentage of the total contract cost that will be made available to SDBs.

CRITICAL
 ✓ List all components of work offered for subcontracting.

Was this work listed in the solicitation?	Does Offeror normally self-perform this work?	Was this work made available to SDB Firms? If not, explain why.
<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no

Attach additional sheets if necessary.



GFE Waiver – Part 2

Identified SDBs and Record of Solicitations

CRITICAL
 ✓ Specifics and Details are important

Provide quotes for the Identified Items of Work made available for SDB participation. Include the name of the SDB to which quotes were solicited, date and manner of initial and follow-up solicitations, whether the SDB provided a quote, and whether the SDB was used toward meeting the SDB participation goal. SDBs used to meet the SDB participation goal must be listed on Form GFE-2 (SDB-2).

Initial solicitations and documentation of follow-up calls to SDBs must be attached to this form. For each Identified SDB the Offeror should submit an SDB Subcontractor Unavailability Certificate signed by the SDB or a statement from the Offeror that the SDB is unable to sign the SDB Subcontractor Unavailability Certificate.

Name of Identified SDB and Classification	Describe Item of Work Solicited	Initial Solicitation Date & Method	Follow-up Solicitation Date & Method	Details for Follow-up Calls	Quote Received?	Quote Used?	Reason Quote Rejected
SDB Name: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> LGBTBE <input type="checkbox"/> DOBE <input type="checkbox"/> SDVBE		Date: <input type="checkbox"/> mail <input type="checkbox"/> email <input type="checkbox"/> fax	Date: <input type="checkbox"/> mail <input type="checkbox"/> email <input type="checkbox"/> fax	Date and Time of Call: Spoke with: Left Message:	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> Used other SDB <input type="checkbox"/> Used non-SDB <input type="checkbox"/> Self performing
SDB Name: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> LGBTBE <input type="checkbox"/> DOBE <input type="checkbox"/> SDVBE		Date: <input type="checkbox"/> mail <input type="checkbox"/> email <input type="checkbox"/> fax	Date: <input type="checkbox"/> mail <input type="checkbox"/> email <input type="checkbox"/> fax	Date and Time of Call: Spoke with: Left Message:	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> Used other SDB <input type="checkbox"/> Used non-SDB <input type="checkbox"/> Self performing

Attach additional sheets as necessary.



GFE Waiver – Part 3

SDB Outreach Compliance Statement

CRITICAL
✓ Documentation for
Part 1

1. List the Identified Items of Work for subcontracting opportunities for the solicitation along with specific work categories:

2. Attach to this form copies of written solicitations (with Bid or Proposal instructions) used to solicit Identified SDBs for these subcontract opportunities.

3. Offeror made the following attempts to contact the Identified SDBs:

4. Bonding Requirements (Please Check One):

This project does not involve bonding requirements.

Offeror assisted Identified SDBs to fulfill or seek waiver of bonding requirements.
(DESCRIBE EFFORTS):

5. Pre-Bid/Proposal Conference or Supplier Forum (Please Check One):



GFE Waiver – Part 4

Additional Information Regarding Rejected SDB Quotes

This form is to be completed if Part 2 indicates that an SDB quote was rejected because the Offeror is using a non-SDB or is self-performing the Identified Items of Work, state whether the work will be self-performed or performed by a non-SDB, and if performed by a non-SDB firm. Also include the names of all SDBs and non-SDB firms that provided a quote and the amount of

CRITICAL
 ✓ Documentation for Part 2

Self-performing or using non-SDB (provide name of non-SDB if applicable)	Amount of non-SDB quote \$	Name of other firms that provided quotes and whether they are SDB	Amount quoted \$	Reason why SDB quote was rejected along with brief explanation
<input type="checkbox"/> self-performing <input type="checkbox"/> using Non-SDB Name:		<input type="checkbox"/> SDB <input type="checkbox"/> Non-SDB Name:		<input type="checkbox"/> price <input type="checkbox"/> capabilities <input type="checkbox"/> other
<input type="checkbox"/> self-performing <input type="checkbox"/> using Non-SDB Name:		<input type="checkbox"/> SDB <input type="checkbox"/> Non-SDB Name:		<input type="checkbox"/> price <input type="checkbox"/> capabilities <input type="checkbox"/> other
<input type="checkbox"/> self-performing <input type="checkbox"/> using Non-SDB Name:		<input type="checkbox"/> SDB <input type="checkbox"/> Non-SDB Name:		<input type="checkbox"/> price <input type="checkbox"/> capabilities <input type="checkbox"/> other
<input type="checkbox"/> self-performing <input type="checkbox"/> using Non-SDB Name:		<input type="checkbox"/> SDB <input type="checkbox"/> Non-SDB Name:		<input type="checkbox"/> price <input type="checkbox"/> capabilities <input type="checkbox"/> other

NEGOTIATE



GFE Waiver – Part 5

SDB Subcontractor Unavailability Certificate

CRITICAL
✓ Required for each vendor listed in Part 1

It is hereby certified that the firm of _____
(Name of SDB)

located at _____
(Number) (Street)

(City) (State) (Zip)

was offered an opportunity to bid on Solicitation No. _____

by _____
(Name of Prime Contractor's Firm)

2. _____ (SDB), is either unavailable for the work/service
unable to prepare a Proposal for this project for the following reason(s):

(Signature of SDB's Representative) (Title) (Date)

**E-MAIL IS
ALLOWABLE
SUBSTITUTE**



SDB/VBE Response Submittal

Proposals **received** by the Department of General Services **after** the Proposal **Submission Deadline** will be **rejected**. It is the responsibility of each Proposer to ensure that its proposal is received by the Department of General Services prior to the Proposal Submission Deadline, regardless of method of delivery used.

However, e-Builder is **not to be used** to submit any part of your Proposal. Proposals delivered in person by the Proposer or through an authorized representative will be received by the Proposal Contact Person from individuals presenting picture identification on behalf of the Proposer.



Best Practices

Do's

- Read all instructions completely.
- Submit **SEPARATE** SDB and VBE submittal forms for each base bid.
- Validate SDB/VBE status in DGS Supplier Database.
- Ensure that all appropriate forms are completed and signed correctly.
- Submit questions early per the solicitation requirements.

Don'ts

- Make any assumptions.
- Copy SDB submittal paperwork. Download and complete the VBE submittal separately, titles and accuracy matter.
- Skip any portion of the GFE waiver request documentation.
- Forget to verify subcontractor status as current SDB/VBE in DGS Supplier Database.



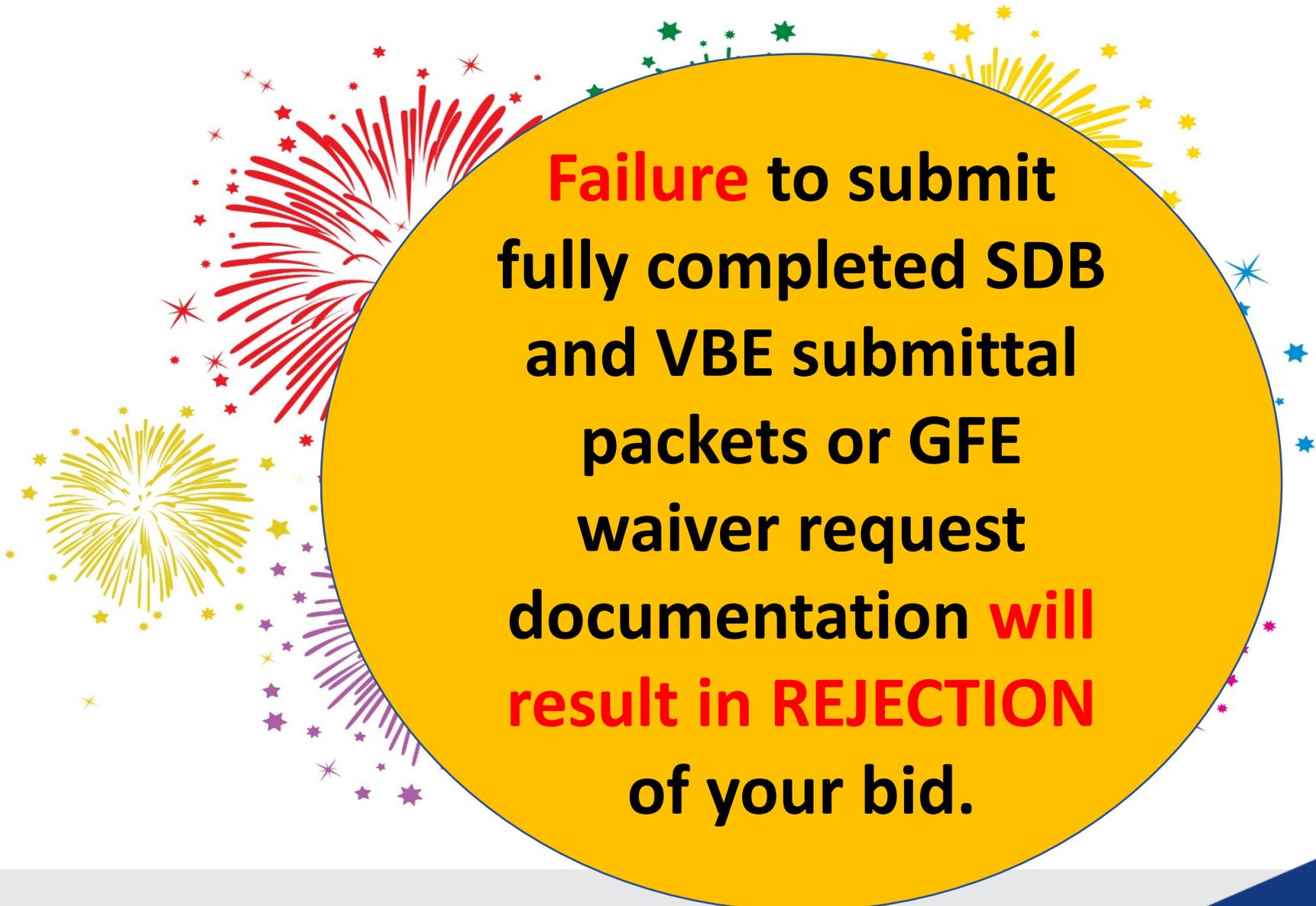
REMINDER



**SEPARATE
SDB/VBE
SUBMITTALS
WITH EACH
BASE BID!**



REMINDER



Failure to submit
fully completed SDB
and VBE submittal
packets or GFE
waiver request
documentation **will**
result in REJECTION
of your bid.



Questions?



PA STATE POLICE ACADEMY C-0211-005 PH 5

PROJECT: PSP Academy Pre-bid Meeting

MEETING DATE: June 16, 2023

FACILITATOR: DGS / SOM

LOCATION: Police Academy, Hershey PA

NAME	COMPANY	PHONE	EMAIL
James Rosman	Pennsylvania Networks Inc	814-259-3999 Ext 9	JRosman @ Pennsylvania Networks .com
Heath Younkin	JVI Group Inc.	724-640-4036	hyounkin @ JVI Group .inc .com
Brian Schaeffer	Philip's Brothers Ele	610 458-8578	marke@philipsbrothers.com
Randy Blank	Movingers	717-930-0400	randy@movingersinc.com
James Kooniz	PROAC	717 821-3206	JKooniz @ proaccorp.com
Chris Menyes	ASCOM	717 479-1400	Chris.Mayn @ ascobleads.com
Brad Himebright	CONEXUS	717-222-4158	bhimebright @ conexus .b.i.2
Asim Hayes	BlackCS2	717-525-0576	mhayes@blackcsi.com
Luke Ott	Kyle Electric	413-426-2457	lott@usesi.com
Jamie Morrison	LV Concrete	717314-3964	JMorrison@LVconcrete LLC
Ryan Devershore	LV Concrete		Rdevershore@LVconcrete LLC .com
Gordon Laffer	ARM Group	717-608-7970	glaffer@armgroup.net
JAMES S. BROWN	BROWNS Building SERV. LLC	717-602-7031	brownsbuilding SERVICE 1 @ YAHOO.COM
SHAH HARSHAL R	A&S Consult.	973-718-0343	hshah @ amjengineers .com
SCOTT ANTOSH	12 BRAVO	724-392-4879	ADMIN@12BRAVOCCOM
LSA Sanford	DGS BDISBO		
NICK Spohn	DGS BDISBO		

PA STATE POLICE ACADEMY C-0211-005 PH 5

PROJECT: PSP Academy Pre-bid Meeting

MEETING DATE: June 16, 2023

FACILITATOR: DGS / SOM

LOCATION: Police Academy, Hershey PA

NAME	COMPANY	PHONE	EMAIL
Brian Pomeroy	Carpenters	412-651-6214	bpomeroy@pasCarpenters.org
Kyle Fink	Langan	517-507-2210	k.fink@langan.com
DAVID HYDE	DGS	717-836-4495	davidhyde@pa.gov
SUSAN WRIGHT	Schnabel	610-636-5705	SUE.WRIGHT@SCHNABEL.BE.LI.CO
London Moore	Schnabel	267-242-3728	London.Moore@SCHNABEL.COM
JOLEE Younkin	Centerville Enterprises	814-279-1727	jyounkin@centervilleent.com
Brad Thal	Automated Logic	814-574-2232	brad.thal@carrier.com
Kelly Penoyer	Strong Women Industrial Materials	302-743-4061	strongwomenindustrialmaterials@gmail.com
Aaron Camara	Lebanon Building Supply	717-272-4649	Aaron@LebanonBuildingSupply.com
Cuyler Lewis	H&I Commercial Food Service	814-464-6057	CUYLER@H&IUSA.COM
JORDAN BROWN	YALE ELECTRIC	267 663 9303	JBROWN@YALEELECTRIC.COM
Tim Myers	WOHLSEN	717-299-2500	Tmyers@WOHLSEN.COM
Regina Todd	First Capital Engineering	717-854-3227	reginat@fceng.com
Rob Brewer	FARFIELD Co	717-560-7930	Rob.Brewer@FARFIELD.CO
Jean Gaul	FARFIELD Co	717-626-4781	JOAN.GAUL@FARFIELD.CO
Joe Fluhr	The Berg Corporation	443-845-0430	jfluhr@bergdemo.com

PA STATE POLICE ACADEMY C-0211-005 PH 5

PROJECT: PSP Academy Pre-bid Meeting

MEETING DATE: June 16, 2023

FACILITATOR: DGS / SOM

LOCATION: Police Academy, Hershey PA

NAME	COMPANY	PHONE	EMAIL
Mark Thiel	Allstate Mechanical	610-389-5212	mark@allstetasm1.com
JEFFREY KLINGER	BSI CONSTRUCTION	215-783-1073	jeffk@BSI.CONST.COM
Todd Eddy	Hutt's Glass	610-369-1028	todd@huttsglass.com
Chris Mitchell	Hutt's Glass	610-369-1028	cmitchellhuttsglass.com
Adam Fuccini	Pace Masters of Hwy	717-307-7708	pacemasters21@gmail.com
Josh Temple	Mid-Atlantic Precast	717-472-0486	josh@maprecast.com
Steve Powers	Novingers Inc	717-648-6843	spowers@novingersinc.com
Michael Walker	Allstate Mechanical	484-881-1037	michael@allstetasm1.com
MICHAEL HOGAN	QUANDT / PJDCK	570-840-5204	MHOGAN@QUANDT.COM
Kyle Gable	Conexus	717-222-4159 215-447-3140	Kgable@conexus.biz
Nick D'Angelo	BSI Construction		ndangelo@BSI.CONST.COM
Jason Branneman	BBEC LLC	717-636-4103	Jbranneman@bbecinc.com
MIKE RASH	MORRISON GROTHERRMAL	717-648 9127	M.RASH@MORRISON GROTHERRMAL.COM
Jim Carmody	Tek-Care LLC	610-409-9800	jcarmody@tek-care,nc
David Gassert	ARM Group	717-686-5395	dgassert@armgroup.net
JOG PAONE	FARFIELD	-	Joseph.Paone@Farfield.net

GENERAL NOTES

- REFER TO GEN-E-001 FOR SYMBOLS, ABBREVIATIONS AND NOTES.
- REFER TO STA-E400 FOR ENLARGED PLANS.
- REFER TO GEN-E-701 FOR DETAILS.
- CONDUIT ROUTING AND TRANSFORMER PAD AND UTILITY POLE LOCATIONS ON SITE ARE FOR REFERENCE ONLY. REFER TO SITE/CIVIL PLANS FOR EXACT LOCATION AND ROUTING.

SHEET NOTES

- MAIN SERVICE SWITCHBOARD IN ELECTRICAL ROOM.
- ATS ROOM
- UNDERGROUND ELECTRIC SERVICE FEEDERS.
- UNDERGROUND EMERGENCY ELECTRIC SERVICE FEEDERS.
- INCOMING ELECTRIC SERVICE FEEDERS FROM AUTO B&G.
- 750KW EMERGENCY GENERATOR
- 1'x1' HANDHOLE BOX FOR SITE LIGHTING. SEE CIVIL FOR EXACT LOCATION.
- FEEDER FOR PANEL FP FROM PANEL B-0L1.

STRUCTURAL ENGINEER
Skidmore, Owings & Merrill LLP
 250 Greenwich St, New York, NY 10007

ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER
A & J Consulting Engineering Services, P.C.
 164 Brighton Rd, Clifton, NJ 07012

MECHANICAL, AVIT ENGINEER
Interface Engineering, Inc.
 2000 M Street NW, Suite 270, Washington, DC 20036

ACOUSTICAL ENGINEER
Cerami
 1001 Ave of the Americas, 4th Floor, New York, NY 10018

CODE CONSULTING
CCI
 215 W 40th St, 10th Floor, New York, NY 10018

CIVIL ENGINEER
Langan
 1818 Market St #3300, Philadelphia, PA 19103

VERTICAL TRANSPORT
Michael Blades & Associates Ltd.
 5409 Rapidan Ct, Lothian, MD 20711

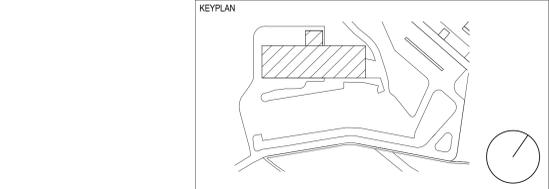
SIGNAGE CONSULTANT
Patricia Hord Graphik Design
 119 S. St. Asaph St, Alexandria, VA 22314

LANDSCAPE
Lee and Associates, Inc.
 638 I Street NW, Washington, DC 20001

LIGHTING
MCLA
 1000 Patomac St NW, Suite 121, Washington, DC 20007

FOOD SERVICE
Hopkins Foodservice Specialists, Inc.
 7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN
Aqua Design International
 7536 N. La Cholla Blvd Tucson, AZ 85741



NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
2	23 JUN 2023	ADDENDUM 28			
1	19 MAY 2023	ISSUED FOR BID			

REGISTERED PROFESSIONAL ENGINEER
JITENDRA K. AGARWAL
 ENGINEER (P0331746)
 PENNSYLVANIA

SIGNATURE: *J. Agarwal* DATE: 2023-06-16

ARCHITECT
SOM
Skidmore, Owings & Merrill LLP
 250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
 HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No:
C-0211-0005 PHASE 5

Pennsylvania State Police Academy Core buildings, BESO & Sitework
 PENNSYLVANIA STATE POLICE
 HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE

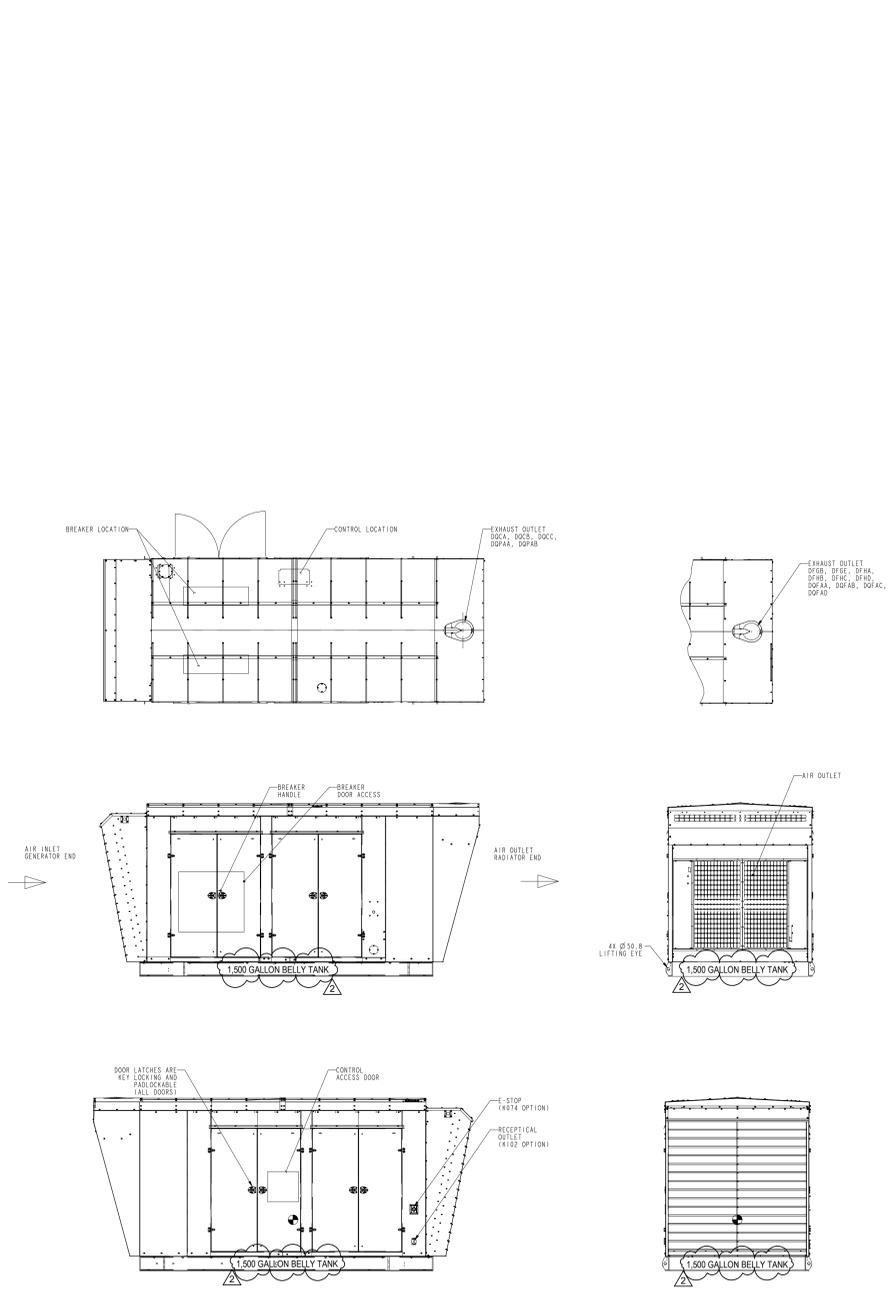
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IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

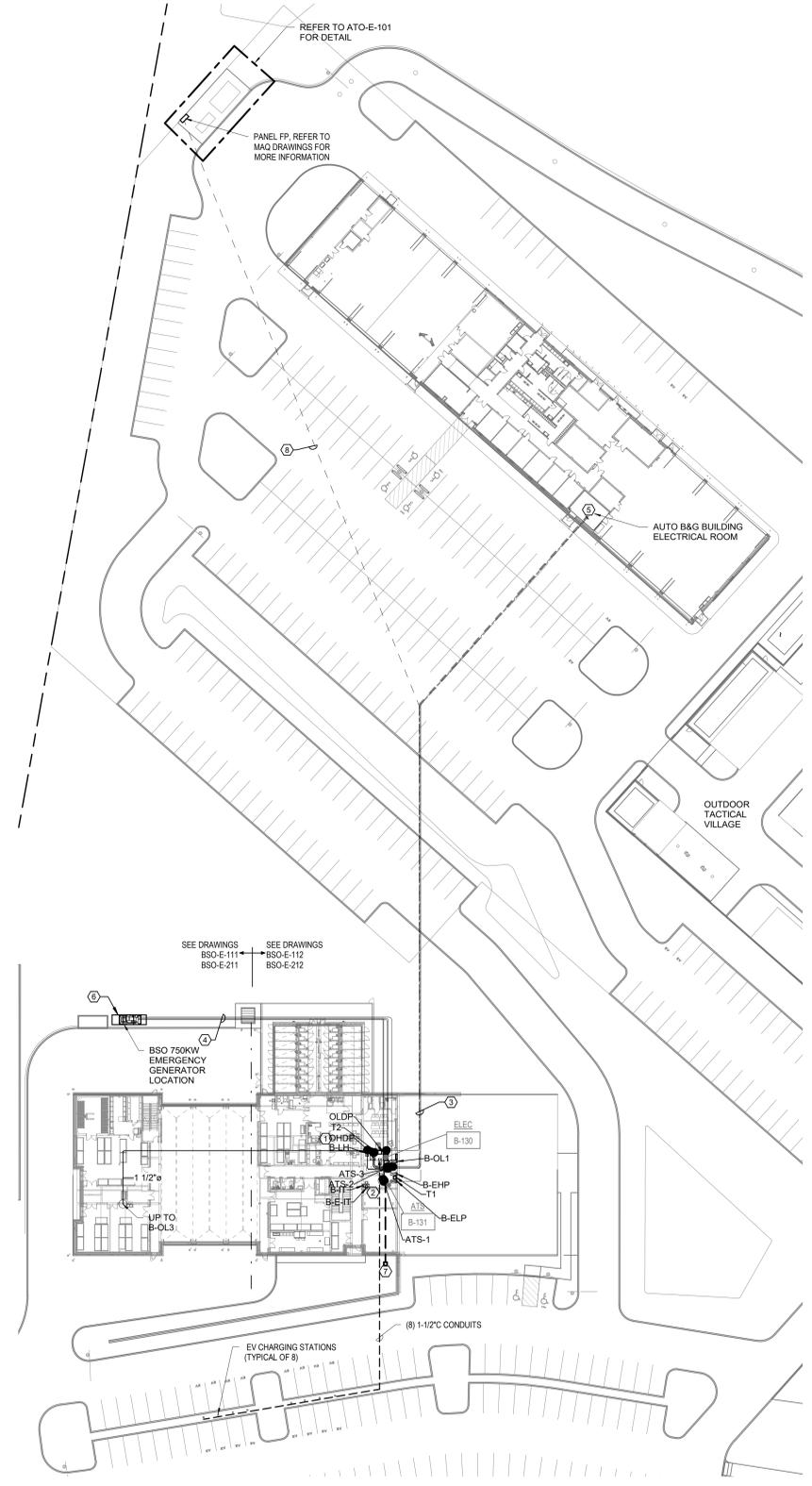
SHEET No.
BSO-E-100

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.

DRAWN BY: AA **CHECKED BY:** MK **DATE:** APR 2022 **SCALE:** AS NOTED



3 BESO GENERATOR
 SCALE: 3/16" = 1'-0"



1 OVERALL PLAN
 SCALE: 1" = 40'-0"
 0 15'-0" 30'-0" 60'-0" 120'-0"

KEYNOTES	
GL-10	088852 BALLISTIC GLASS
PRC-01	125653 PHENOLIC RESIN CASEWORK
PT-01	090700 PAINT FINISH, WHITE
RMX-01	096700 EPOXY FLOORING, GRAY

LEGEND	
FIRE RATINGS	
---	1/2 HOUR FIRE RATING
----	1 HOUR FIRE RATING
-----	2 HOUR FIRE RATING
-----	3 HOUR FIRE RATING
DRAWING NOTE	
⊗	CONCRETE WALL

TACTICAL TRAINING DESIGN

Tactical Design North, Inc.
231 E. Buffalo St #502, Milwaukee, WI 53202

LOCAL ARCHITECT

Jacobs Wyper Architects
1232 Chancellor St, Philadelphia, PA 19107

STRUCTURAL ENGINEER

Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, NY 10007

ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER

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1818 Market St #3300, Philadelphia, PA 19103

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Patricia Hord Graphik Design
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LANDSCAPE

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638 I Street NW, Washington, DC 20001

LIGHTING

MCLA
1000 Patomic St NW, Suite 121, Washington, DC 20007

FOOD SERVICE

Hopkins Foodservice Specialists, Inc.
7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

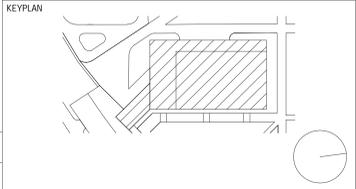
AQUA Design International
7536 N. La Cholla Blvd, Tucson, AZ 85741

RCP LEGEND	
+	CONCEAL PENDANT SPRINKLER
+	PENDANT SPRINKLER
+	UPRIGHT SPRINKLER
+	SIDE WALL SPRINKLER
---	LINEAR DIFFUSER
---	DIFFUSER
---	EXHAUST
---	ACCESS PANEL
XX1	LIGHT FIXTURE
XX1	LIGHT FIXTURE
P	PROJECTOR
PS	PROJECTOR SCREEN
S	EXIT SIGN
PA	SPEAKER
PA	PAGING SPEAKER
M	MICROPHONE
SD	SMOKE DETECTOR
SD	FIRE ALARM STROBE
OS	OCCUPANCY SENSOR
VS	VACANCY
DS	DAYLIGHT SENSOR
SC	SECURITY CAMERA
WAP	WAP ABOVE CEILING
WAP	WAP BELOW CEILING
WB	WOOD BAFFLE
WC	WALL CLOCK

GENERAL NOTES	
1.	ALL DIFFUSERS, REGISTERS AND GRILLES ARE BY THE 2 HVAC CONTRACTOR AND ARE SHOWN FOR LOCATION AND COORDINATION ONLY. UNO.
2.	ALL PLUMBING FIXTURES, SPRINKLERS, FHCS, AND STANDPIPES AND RELATED EQUIPMENT ARE BY THE 4 PLUMBING CONTRACTOR AND ARE SHOWN FOR LOCATION AND COORDINATION ONLY. UNO.
3.	ALL RECEPTACLES, LIGHTS SWITCHES, TELE/ DATA RECEPTACLES, TELECOM EQUIPMENT AND AV EQUIPMENT ARE BY THE 4 ELECTRICAL CONTRACTOR AND ARE SHOWN FOR LOCATION AND COORDINATION ONLY. UNO.
4.	REFERENCE GEN-C-103 FOR STANDARD MOUNTING HEIGHTS AND DETAILS.
5.	REFERENCE ALSO POWER COMMUNICATIONS AND FINISH PLANS AND GEN-C-101 FOR STANDARD DEVICE MOUNTING ARRANGEMENTS, ALIGNMENTS AND DIMENSIONAL INFORMATION.
6.	ALIGN WALL TILE JOINTS TO FLOOR TILE JOINT LINES.
7.	CONFIRM FINAL TILE JOINT LAYOUT WITH PROFESSIONAL PRIOR TO INSTALLATION.

DRAWING NOTES	
1.	BAR IS ONE (1) INCH LONG
0	ON ORIGINAL DRAWING
1	IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

RECORD REVISIONS					
NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
28	23 JUN 2023	ADDENDUM 28			
1	19 MAY 2023	ISSUED FOR BID			



SIGNATURE _____ DATE _____

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT NO.

C-0211-0005 PHASE 5

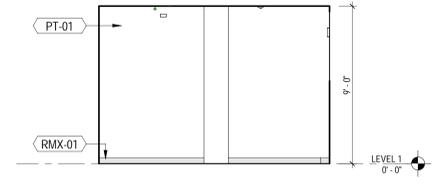
Pennsylvania State Police Academy
Core Buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE

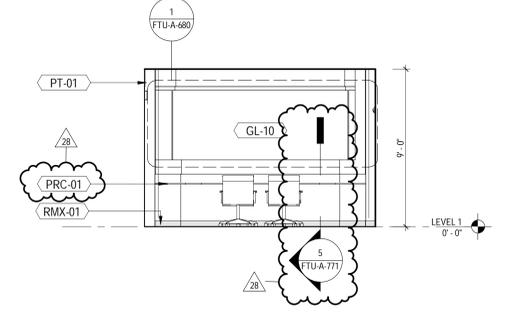
CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.

SHEET No. **FTU-A-652**

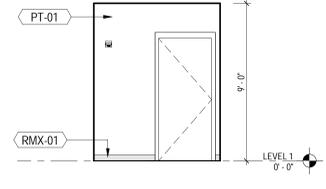
DRAWN BY TDN CHECKED BY TDN DATE MAY 2023 SCALE AS NOTED



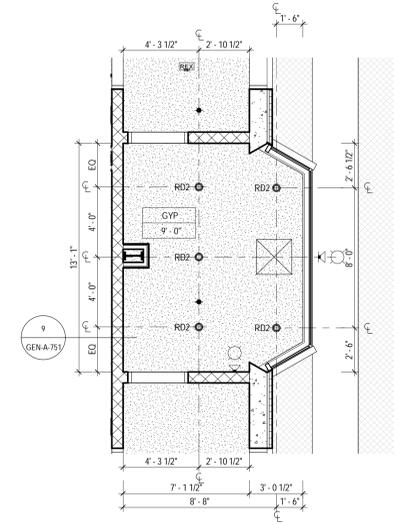
6 CONTROL ROOM - WEST
SCALE: 1/4" = 1'-0" 0 2'-0" 4'-0" 8'-0" 16'-0"



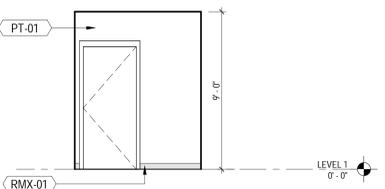
3 CONTROL ROOM - EAST
SCALE: 1/4" = 1'-0" 0 2'-0" 4'-0" 8'-0" 16'-0"



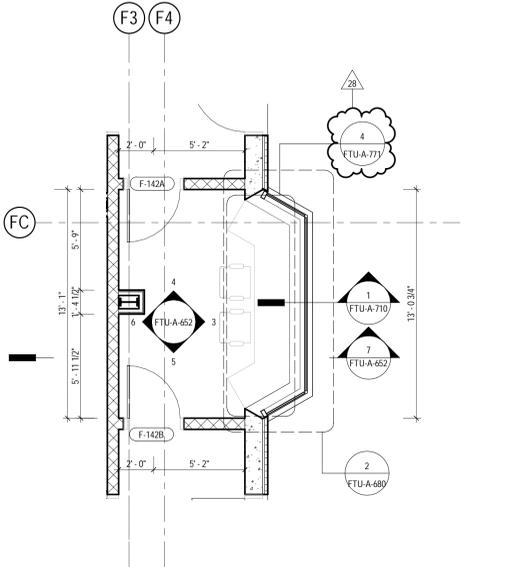
5 CONTROL ROOM - SOUTH
SCALE: 1/4" = 1'-0" 0 2'-0" 4'-0" 8'-0" 16'-0"



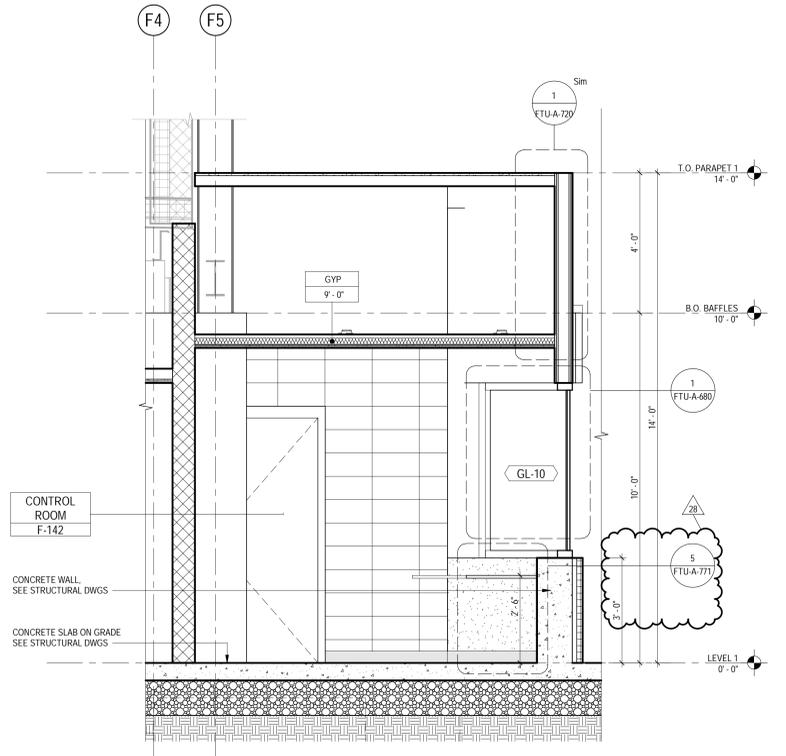
2 CONTROL ROOM - RCP
SCALE: 1/4" = 1'-0" 0 2'-0" 4'-0" 8'-0" 16'-0"



4 CONTROL ROOM - NORTH
SCALE: 1/4" = 1'-0" 0 2'-0" 4'-0" 8'-0" 16'-0"



1 CONTROL ROOM - PLAN
SCALE: 1/4" = 1'-0" 0 2'-0" 4'-0" 8'-0" 16'-0"



7 SECTION - CONTROL ROOM
SCALE: 1/2" = 1'-0" 0 1'-0" 2'-0" 4'-0" 8'-0"

KEYNOTES

GL-10	08856	BALLISTIC GLASS
RNG-07	119010	RANGE ACOUSTIC WALL PANELS

TACTICAL TRAINING DESIGN

Tactical Design North, Inc.
231 E. Buffalo St #502, Milwaukee, WI 53202

LOCAL ARCHITECT

Jacobs Wyper Architects
1232 Chancellor St, Philadelphia, PA 19107

STRUCTURAL ENGINEER

Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, NY 10007

ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER

A & J Consulting Engineering Services, P.C.
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ACOUSTICAL ENGINEER

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CODE CONSULTING

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CIVIL ENGINEER

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SIGNAGE CONSULTANT

Patricia Hord Graphik Design
119 S. St. Asaph St, Alexandria, VA 22314

LANDSCAPE

Lee and Associates, Inc.
638 I Street NW, Washington, DC 20001

LIGHTING

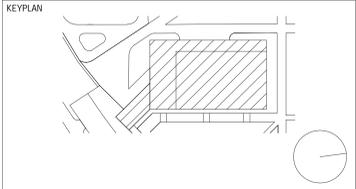
MCLA
1000 Patomic St NW, Suite 121, Washington, DC 20007

FOOD SERVICE

Hopkins Foodservice Specialists, Inc.
7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

AQUA Design International
7536 N. La Cholla Blvd, Tucson, AZ 85741



NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
28	23 JUN 2023	ADDENDUM 28			
1	19 MAY 2023	ISSUED FOR BID			

RECORD REVISIONS

SIGNATURE _____ DATE _____

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT NO. **C-0211-0005 PHASE 5**

Pennsylvania State Police Academy
Core Buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE

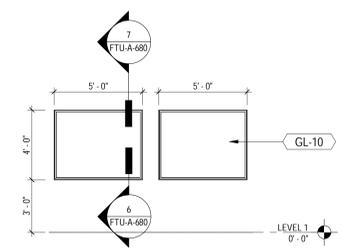
BAR IS ONE (1) INCH LONG
ON ORIGINAL DRAWING: 1

IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

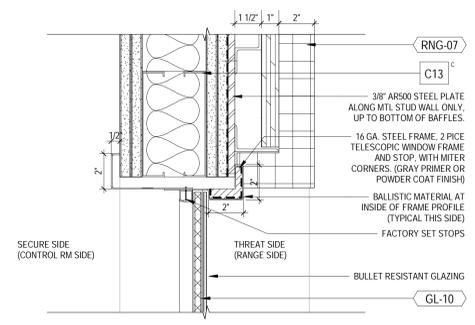
CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.

SHEET No. **FTU-A-680**

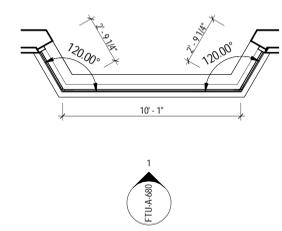
DRAWN BY	CHECKED BY	DATE	SCALE
TDN	TDN	MAY 2023	AS NOTED



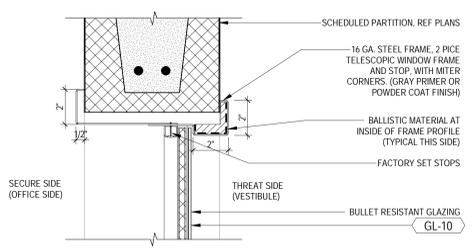
3 OFFICE BALLISTIC WINDOW
SCALE: 1/4" = 1'-0" 0 2'-0" 4'-0" 8'-0" 16'-0"



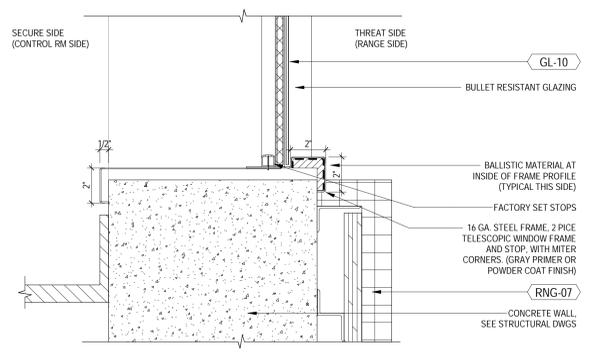
5 RANGE BALLISTIC WINDOW HEAD
SCALE: 3" = 1'-0" 0 2' 4' 8' 1'-4"



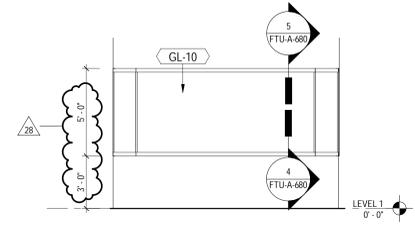
2 RANGE BALLISTIC WINDOW PLAN
SCALE: 1/4" = 1'-0" 0 2'-0" 4'-0" 8'-0" 16'-0"



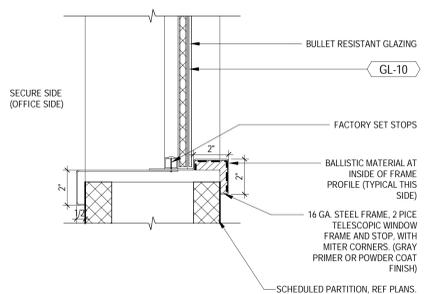
7 OFFICE BALLISTIC WINDOW HEAD
SCALE: 3" = 1'-0" 0 2' 4' 8' 1'-4"



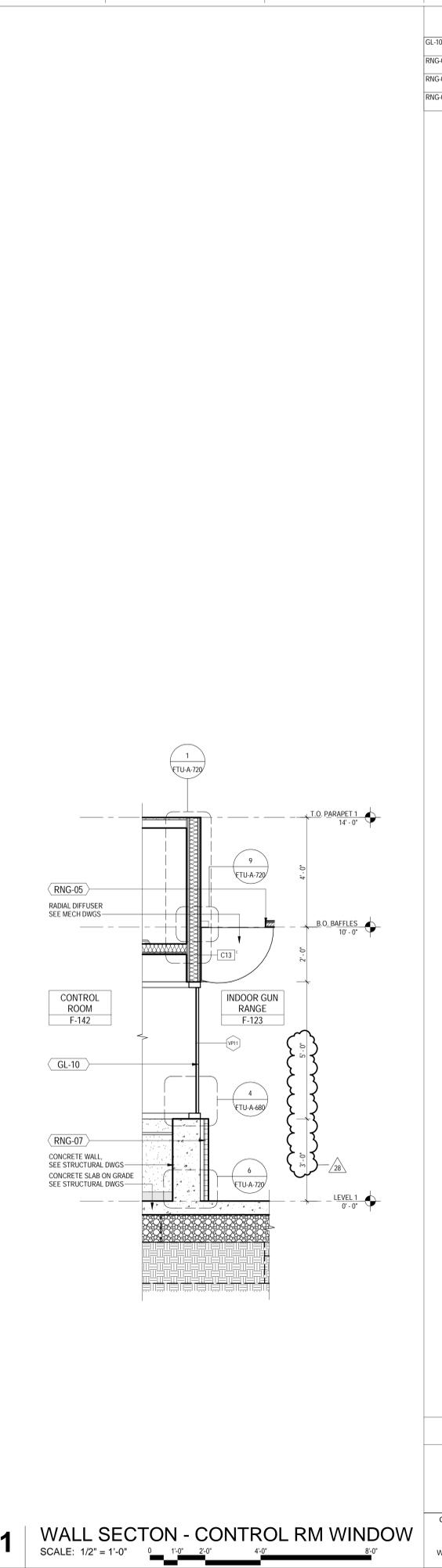
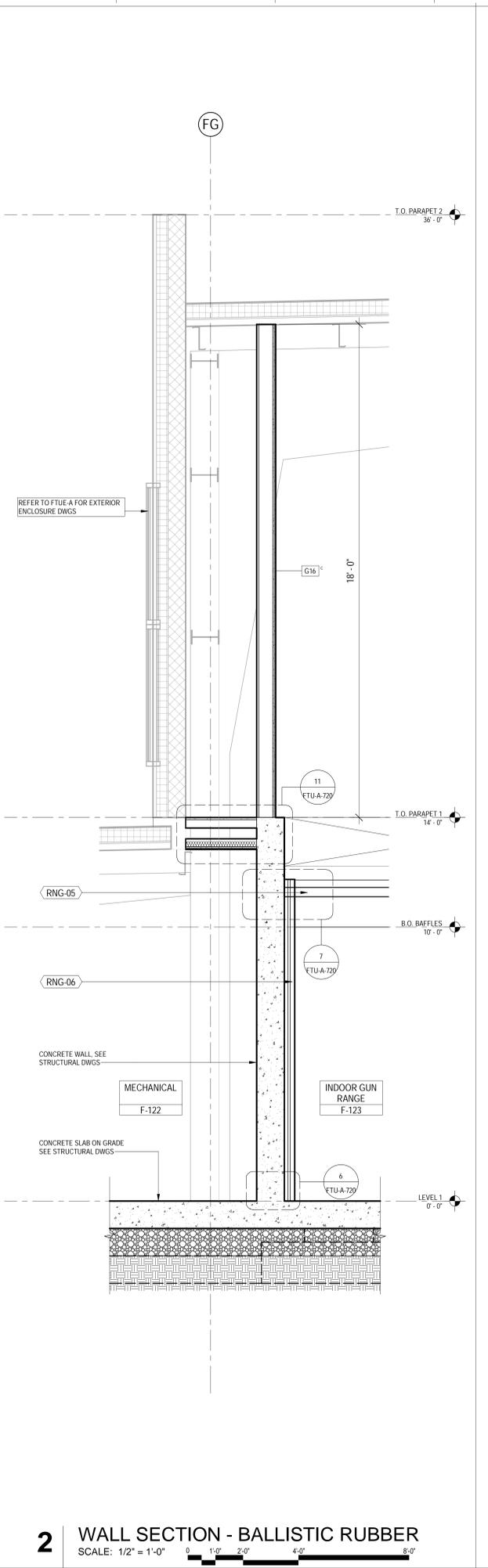
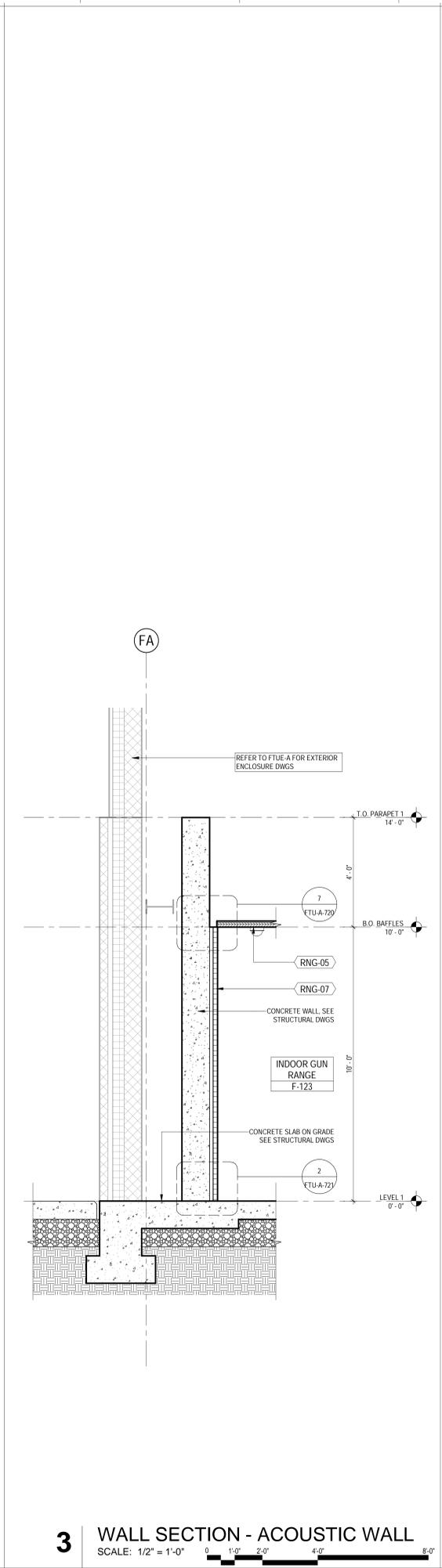
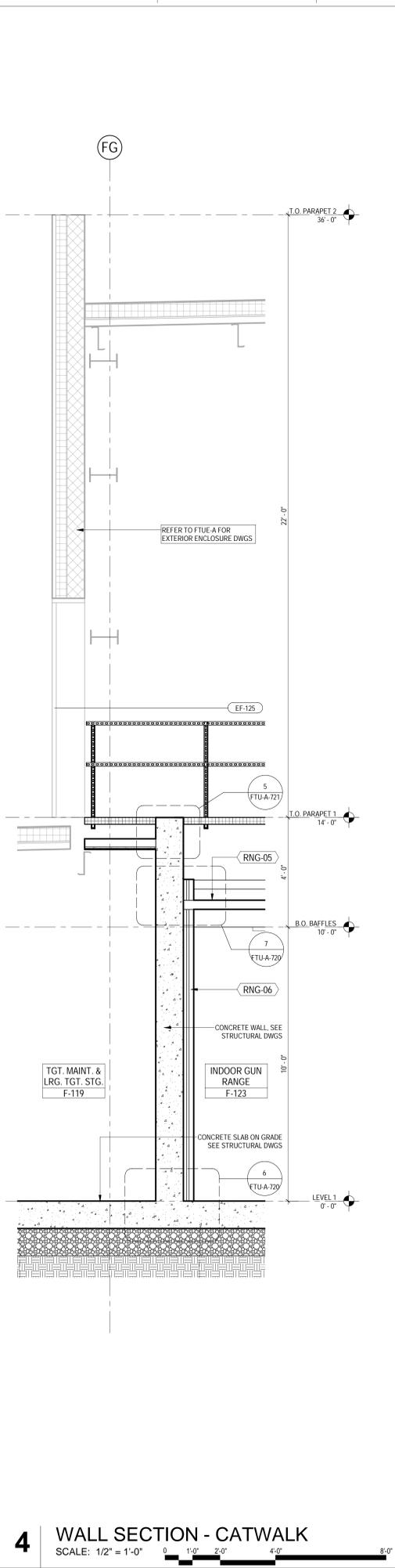
4 RANGE BALLISTIC WINDOW SILL/JAMB
SCALE: 3" = 1'-0" 0 2' 4' 8' 1'-4"



1 RANGE BALLISTIC WINDOW ELEVATION
SCALE: 1/4" = 1'-0" 0 2'-0" 4'-0" 8'-0" 16'-0"



6 OFFICE BALLISTIC WINDOW SILL/JAMB
SCALE: 3" = 1'-0" 0 2' 4' 8' 1'-4"



KEYNOTES	
GL-10	88864 BALLISTIC GLASS
RNG-05	119010 RANGE CEILING BAFFLES
RNG-06	119010 RANGE ACOUSTIC RUBBER BLOCK
RNG-07	119010 RANGE ACOUSTIC WALL PANELS

TACTICAL TRAINING DESIGN

Tactical Design North, Inc.
231 E. Buffalo St #502, Milwaukee, WI 53202

LOCAL ARCHITECT

Jacobs Wyper Architects
1232 Chancellor St, Philadelphia, PA 19107

STRUCTURAL ENGINEER

Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, NY 10007

ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER

A & J Consulting Engineering Services, P.C.
164 Brighton Rd, Clifton, NJ 07012

MECHANICAL AVIT ENGINEER

Interface Engineering, Inc.
2000 M Street NW, Suite 270, Washington, DC 20036

ACOUSTICAL ENGINEER

Cerami
1001 Ave of the Americas, 4th Floor, New York, NY 10018

CODE CONSULTING

CCI
215 W 40th St, 10th Floor, New York, NY 10018

CIVIL ENGINEER

Langan
1818 Market St #3300, Philadelphia, PA 19103

VERTICAL TRANSPORT

Michael Blades & Associates Ltd.
5409 Rapidan Ct, Lothian, MD 20711

SIGNAGE CONSULTANT

Patricia Hord Graphik Design
119 S. St. Asaph St, Alexandria, VA 22314

LANDSCAPE

Lee and Associates, Inc.
638 I Street NW, Washington, DC 20001

LIGHTING

MCLA
1000 Patomic St NW, Suite 121, Washington, DC 20007

FOOD SERVICE

Hopkins Foodservice Specialists, Inc.
7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

AQUA Design International
7536 N. La Cholla Blvd, Tucson, AZ 85741

KEYPLAN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
28	23 JUN 2023	ADDENDUM 28			
1	19 MAY 2023	ISSUED FOR BID			

RECORD REVISIONS

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No. **C-0211-0005 PHASE 5**

Pennsylvania State Police Academy
Core Buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE

BAR IS ONE (1) INCH LONG
ON ORIGINAL DRAWING: 0 1
IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.

SHEET No. **FTU-A-710**

DRAWN BY	CHECKED BY	DATE	SCALE
TDN	TDN	MAY 2023	AS NOTED

KEYNOTES

CMU-08A	04000	CONCRETE MASONRY UNIT, 8" X 16" X 8" GROUND FACE
PF-16	224710	DRINKING FOUNTAINS
PRC-01	125463	PHENOLIC RESIN CASEWORK

TACTICAL TRAINING DESIGN
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 231 E. Buffalo St #502, Milwaukee, WI 53202

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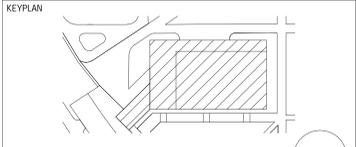
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RECORD REVISIONS



NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
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SIGNATURE _____ DATE _____

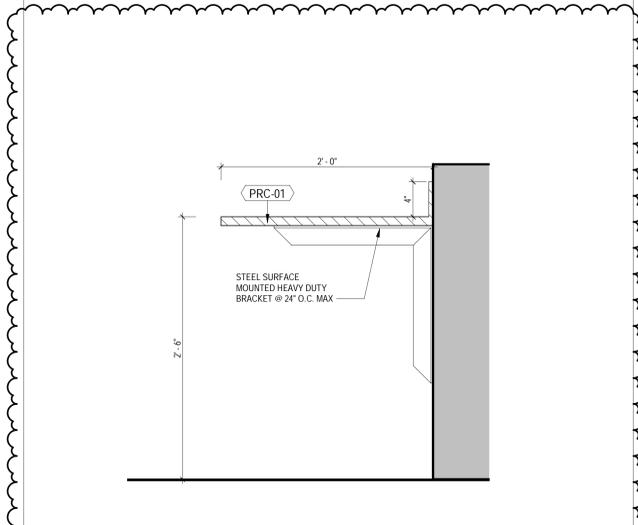
ARCHITECT
SOM
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COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF GENERAL SERVICES
 HARRISBURG, PENNSYLVANIA
 D.G.S. PROJECT No. **C-0211-0005 PHASE 5**
 Pennsylvania State Police Academy
 Core Buildings, BESO & Sitework
 PENNSYLVANIA STATE POLICE
 HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE

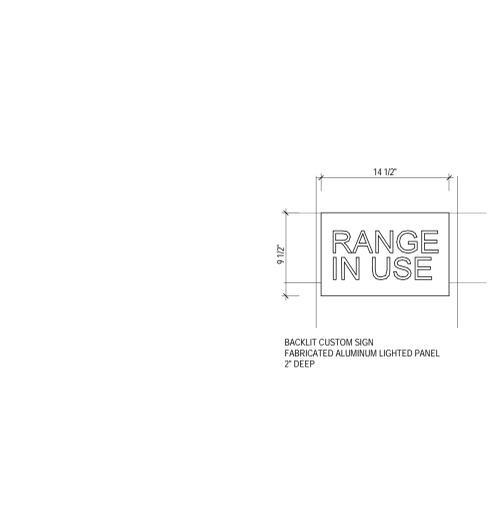
BAR IS ONE (1) INCH LONG
 ON ORIGINAL DRAWING: 1
 IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.

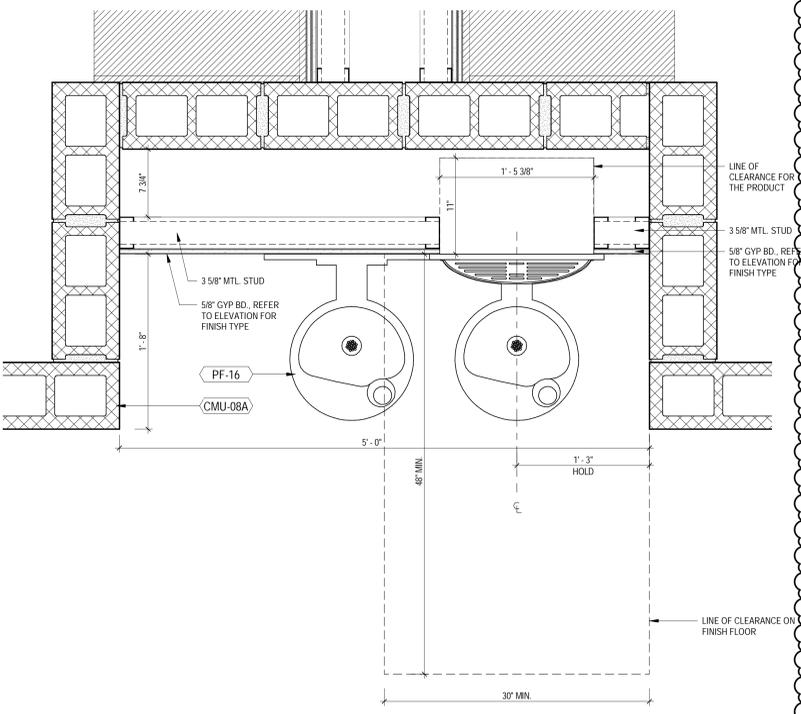
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TDN	TDN	MAY 2023	AS NOTED



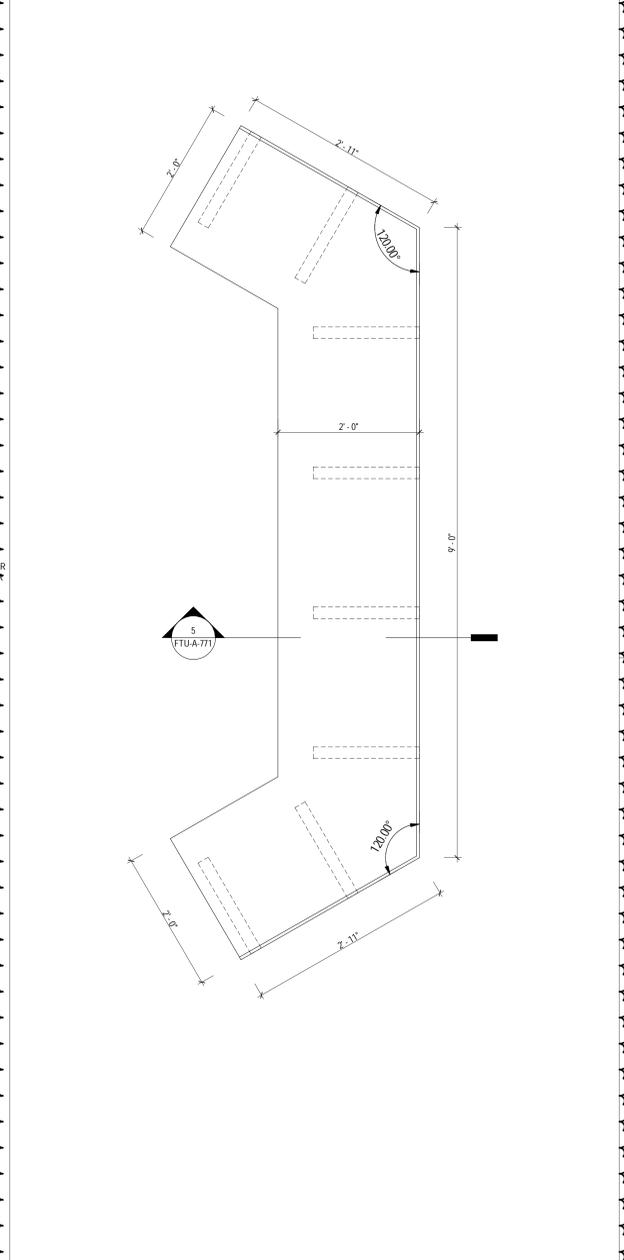
5 CONTROL ROOM - COUNTERTOP SECTION
 SCALE: 1 1/2" = 1'-0" 0 4' 8' 1'-4" 2'-8"



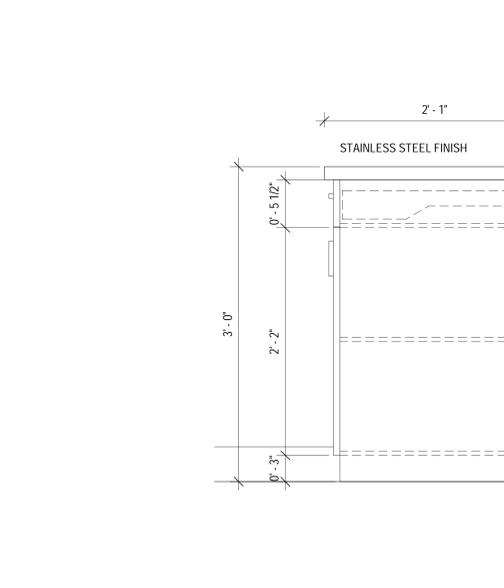
3 SGN-07 - RANGE IN USE SIGN
 SCALE: 1 1/2" = 1'-0" 0 4' 8' 1'-4" 2'-8"



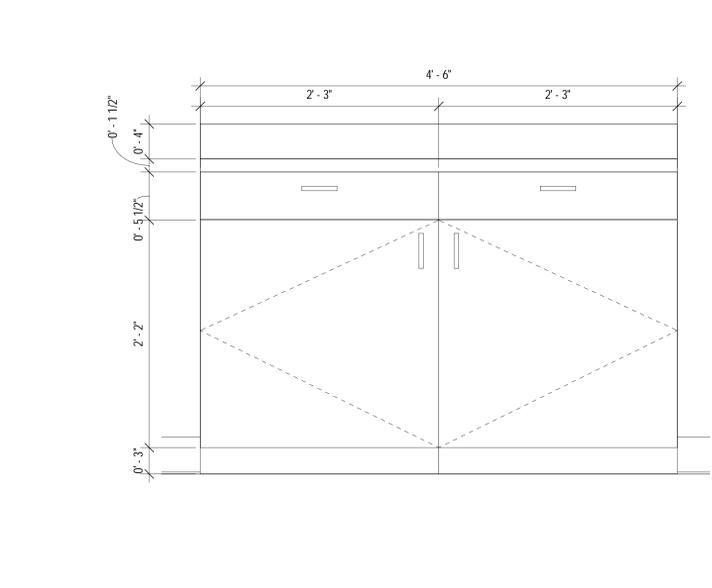
6 DETAIL - DRINKING FOUNTAIN
 SCALE: 1 1/2" = 1'-0" 0 4' 8' 1'-4" 2'-8"



4 CONTROL ROOM - COUNTERTOP PLAN
 SCALE: 1" = 1'-0" 0 4' 8' 1'-4" 2'-8"



2 FIREARMS REPAIR - STEEL CABINET SECTION
 SCALE: 1 1/2" = 1'-0" 0 4' 8' 1'-4" 2'-8"



1 FIREARMS REPAIR - STEEL CABINET FRONT
 SCALE: 1 1/2" = 1'-0" 0 4' 8' 1'-4" 2'-8"

6

4

1

28

ELECTRICAL SYMBOLS

- DUPLEX RECEPTACLE, WALL RECESSED, 20A, 120V. 'GF' INDICATES WITH FAULT CIRCUIT INTERRUPTER. 'IG' INDICATES WITH ISOLATED GROUND. 'I' INDICATES USB RECEPTACLES. 'F' INDICATES FURNITURE MOUNTED. 'M' INDICATES CONTROLLED RECEPTACLE.
- QUADRUPLX RECEPTACLE, WALL RECESSED, 20A, 120V. 'GF' INDICATES WITH FAULT CIRCUIT INTERRUPTER. 'IG' INDICATES WITH ISOLATED GROUND. 'I' INDICATES USB RECEPTACLES. 'F' INDICATES FURNITURE MOUNTED. 'M' INDICATES CONTROLLED RECEPTACLE.
- SIMPLEX RECEPTACLE. REFER TO DRAWING FOR NEMA TYPE AND CURRENT RATING.
- SPECIAL RECEPTACLE. REFER TO DRAWING FOR NEMA TYPE AND CURRENT RATING.
- NEMA 16 TWIST LOCK RECEPTACLE. 20B, 3 WIRE.
- QUADRUPLX (DOUBLE DUPLEX) RECEPTACLE, 20A, 120V
- CEILING MOUNTED DUPLEX RECEPTACLE. 1P-20A, 120V
- UNIVERSAL JUNCTION BOX, CONNECT IN HUNG CEILING
- OUTLET (JUNCTION BOX) 4" SQUARE BOX MINIMUM
- MOTOR RATED SWITCH, NEMA-1 ENCLOSURE U.O.N.
- RAISE AND LOWER PUSH BUTTON/KEY SWITCH CONTROLLER
- CONDUIT
- DEDICATED BRANCH CIRCUIT, HOMERUN TO PANEL
- MULTI-WIRE HOME RUN TO PANEL. ARROWS DENOTE NUMBER OF 1P-20A CIRCUITS.
- ELECTRICAL PANEL, 120/208V, CU BUS, BOLT-ON CIRCUIT BREAKERS AND SEPARATE CU GROUND BUS
- ELECTRICAL PANEL, 277/480V, CU BUS, BOLT-ON CIRCUIT BREAKERS AND SEPARATE CU GROUND BUS
- FUSED DISCONNECT SWITCH, TEXT INDICATES NUMBER OF POLES, RATING, FUSE RATING AND ENCLOSURE TYPE.
- NON-FUSED DISCONNECT SWITCH, TEXT INDICATES NUMBER OF POLES, RATING, FUSE RATING AND ENCLOSURE TYPE.
- COMBINATION DISCONNECT SWITCH AND MOTOR STARTER, NEMA-1 U.O.N., SIZE AS REQUIRED BY MOTOR SERVED.
- MOTOR STARTER OR CONTACTOR. SUBSCRIPT DENOTES TYPE.
- VARIABLE FREQUENCY DRIVE
- TRANSFORMER, RATED AS NOTED
- MOTOR, HORSEPOWER INSCRIBED
- CIRCUIT BREAKER
- FUSED SWITCH, TEXT INDICATES SWITCH AND FUSE RATING
- UNFUSED SWITCH
- AUTOMATIC TRANSFER SWITCH
- CURRENT TRANSFORMER AND METER
- GROUND BUS BAR
- FLOOR BOX WITH (2) 20A DUPLEX RECEPTACLES, PROVIDE 3/4" CONDUIT TRENCHED IN SLAB FOR POWER.
- FIRE SMOKE DAMPER
- CARD READER, SECURITY SYSTEM
- DOOR RELEASE, SECURITY SYSTEM
- GENERATOR REMOTE ANNUNCIATOR
- SECURITY CAMERA, PROVIDE 3/4" EMPTY CONDUIT TO ACCESSIBLE CEILING.
- OVERHEAD PROJECTOR

LIGHTING SYMBOLS

- 2'x4' LIGHTING FIXTURE
- 2'x2' LIGHTING FIXTURE
- 1'x4' LIGHTING FIXTURE
- RECESSED DOWNLIGHT LIGHTING FIXTURE
- WALL MOUNTED LIGHTING FIXTURE
- PENDANT LIGHTING FIXTURE
- EXIT SIGN. ARROWS INDICATE DIRECTION OF TRAVEL. 120/277 VOLT. SINGLE OR DOUBLE FACED AS NOTED.
- EMERGENCY LIGHTING FIXTURES, FED BY EMERGENCY POWER SOURCE. SUBSCRIPT 'EM' INDICATES SWITCHED LIGHTING FIXTURES. SUBSCRIPT 'EMNL' INDICATES UNSWITCHED NIGHT LIGHTS.
- SINGLE POLE TOGGLE SWITCH, LOWER CASE SUBSCRIPT INDICATES FIXTURES CONTROLLED. 'K' INDICATES KEY OPERATED. 'L' INDICATES LOW VOLTAGE SWITCH.
- 3-WAY LIGHT SWITCH
- 4-WAY LIGHT SWITCH
- OCCUPANCY SENSOR LIGHT SWITCH. 'VS' INDICATES VACANCY SENSOR SWITCH.

NOTES

ALL ABBREVIATIONS AND SYMBOLS MAY NOT APPEAR ON THE DRAWINGS OF THIS PROJECT. REFER TO INDIVIDUAL BUILDING LIGHTING FIXTURE SCHEDULES FOR MORE INFORMATION.

ABBREVIATIONS

- A AMPERES
- AFF ABOVE FLOOR FINISH BY OTHERS
- C OR CDT CONDUIT
- CB CIRCUIT BREAKER
- CKT CIRCUIT
- GFCI GROUND FAULT CIRCUIT INTERRUPTER
- EC ELECTRICAL CONTRACTOR
- E EXISTING
- EL ELEVATOR RECALL
- ER EXISTING TO RELOCATE
- FACP FIRE ALARM CONTROL PANEL
- GND GROUND
- G WIRE GUARD
- GRD GROUNDING
- JB JUNCTION BOX
- KV KILOVOLTS
- KVA KILOVOLT AMPERES
- KW KILOWATTS
- LTG LIGHTING
- LV LOW VOLTAGE
- MNT MOUNTED
- NTS NOT TO SCALE
- R REMOVE
- RE RELOCATE TO POSITION INDICATED
- REL RELOCATED POSITION
- TEL TELEPHONE
- TYP TYPICAL
- V OTHERWISE NOTED
- V VOLTS
- W WATTS
- WP WEATHERPROOF
- XFR TRANSFORMER

LIGHTING SYMBOLS

SYMBOL	DESCRIPTION
	3-WAY LIGHT SWITCH
	4-WAY LIGHT SWITCH
	WALL MOUNTED OCCUPANCY SENSOR LIGHT SWITCH. VS INDICATES VACANCY SENSOR.
	DMX CONTROLS POWER SUPPLY

GENERAL CONSTRUCTION NOTES:

- THE INTENT OF THE CONTRACT DOCUMENTS IS TO ALLOW FOR THE PERFORMANCE OF THE WORK. EVERY ITEM NECESSARILY REQUIRED MAY NOT BE SPECIFICALLY MENTIONED OR SHOWN. UNLESS EXPRESSLY STATED, ALL SYSTEMS AND EQUIPMENT SHALL BE COMPLETED AND APPROPRIATELY OPERABLE. FURNISH AND INSTALL ALL SPECIFIED AND APPROPRIATED ITEMS, AND ALL INCIDENTAL, ACCESSORY, AND OTHER ITEMS NOT SPECIFIED BUT REQUIRED FOR A COMPLETE AND FINISHED ASSEMBLY.
- NO WORK DEFECTIVE IN WORKMANSHIP OR QUALITY OR DEFICIENT IN ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS WILL BE ACCEPTABLE. DESPITE THE ARCHITECT'S FAILURE TO DISCOVER OR POINT OUT DEFECTS OR DEFICIENCIES DURING CONSTRUCTION. DEFECTIVE WORK REVEALED WITHIN THE TIME REQUIRED BY GUARANTEES SHALL BE REPLACED BY WORK CONFORMING WITH THE INTENT OF THE CONTRACT. NO PAYMENT, EITHER PARTIAL OR FINAL, SHALL BE CONSTRUED AS AN ACCEPTANCE OF DEFECTIVE WORK OR IMPROPER MATERIALS.
- PATCH AND REPAIR ALL FIREPROOFING DAMAGE INCURRED DURING DEMOLITION AND/OR CONSTRUCTION. FIREPROOF AS REQUIRED BY CODE ALL NEW PENETRATIONS GENERATED BY THE WORK DESCRIBED IN THESE DOCUMENTS.
- DURING THE COURSE OF CONSTRUCTION, ACTUAL LOCATIONS OF CONSTRUCTION ITEMS DENOTED IN THE CONSTRUCTION DOCUMENTS SHALL BE INDICATED TO SCALE, IN CONTRASTING INK ON THE DRAWINGS FOR ALL RUNS OF MECHANICAL, SPRINKLER, PLUMBING, AND ELECTRICAL WORK, INCLUDING SITE UTILITIES AND CONCEALED DEVIATIONS FROM THE DRAWINGS. UPON COMPLETION OF THE PROJECT THE ARCHITECT WILL PROVIDE THE CONTRACTOR WITH A REPRODUCIBLE SET OF ORIGINAL DOCUMENTS FOR "AS-BUILT" DOCUMENTATION. THIS SET SHALL BE CONSPICUOUSLY MARKED "AS-BUILTS" AND DELIVERED TO THE ARCHITECT.
- THE CONTRACTOR IS RESPONSIBLE FOR CHECKING CONTRACT DOCUMENTS, FIELD CONDITIONS, AND DIMENSIONS FOR ACCURACY AND CONFIRMING THAT WORK IS BUILDABLE AS SHOWN BEFORE PROCEEDING WITH CONSTRUCTION. IF THERE ARE ANY QUESTIONS REGARDING THESE OR OTHER COORDINATION ISSUES, THE CONTRACTOR SHALL SUBMIT THEM, IN WRITING, TO THE ARCHITECT AND IS RESPONSIBLE FOR OBTAINING A WRITTEN CLARIFICATION FROM THE ARCHITECT BEFORE PROCEEDING WITH WORK IN QUESTION, OR RELATED WORK.
- EXECUTE WORK IN ACCORDANCE WITH ANY AND ALL APPLICABLE LOCAL, STATE, FEDERAL CODES, MANUFACTURER'S RECOMMENDATIONS, TRADE AND REFERENCE STANDARDS INCLUDING BUT NOT LIMITED TO: UBC, SEISMIC CODES, NEC, NFPA, ASMC, UMC, LATEST ENFORCED EDITIONS.
- ALL INSTALLED PLUMBING, MECHANICAL, AND ELECTRICAL EQUIPMENT SHALL OPERATE QUIETLY AND FREE OF VIBRATION.
- UPON NOTIFICATION OF COMPLETION OF THE WORK AND DELIVERY OF THE CONTRACTOR'S PUNCHLIST, THE ARCHITECT SHALL PREPARE A PUNCHLIST OF CORRECTIONS, UNSATISFACTORY AND/OR INCOMPLETE WORK. FINAL PAYMENT WILL BE CONTINGENT UPON THE COMPLETION OF THESE ITEMS UNDER THE TERMS OF THE OWNER/CONTRACTOR AGREEMENT.
- ALL MATERIALS SHALL BE NEW, UNUSED, AND OF THE HIGHEST QUALITY IN EVERY RESPECT UNLESS OTHERWISE NOTED. MANUFACTURED MATERIALS AND EQUIPMENT SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS, U.O.N.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS IN CONNECTION WITH THE WORK.
- "SIMILAR" OR "SIM." MEANS COMPARABLE CHARACTERISTICS TO THE CONDITION NOTED. VERIFY DIMENSIONS AND ORIENTATION ON PLAN.
- ALL DRAWINGS AND WRITTEN MATERIAL HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF THE ARCHITECT, AND THE SAME MAY NOT BE DUPLICATED, USED, OR DISCLOSED WITHOUT THE WRITTEN CONSENT TO THE ARCHITECT.

FIRE ALARM SYMBOLS

SYMBOL	DESCRIPTION
	FIRE ALARM PULL STATION, MOUNTED AT 48" AFF.
	SPEAKER/STROBE OR HORN/STROBE, WALL MOUNTED. BUILDINGS MAJ, GYM, AND FTU WILL HAVE VOICE ANNUNCIATED FIRE ALARM SYSTEMS. STA, ATO, BSO, P&S, AND OFR WILL HAVE HORN/STROBE FIRE ALARMS
	STROBE, LIGHT, WALL MOUNTED
	CARBON MONOXIDE DETECTOR
	SMOKE DETECTOR CEILING MOUNT (PHOTOELECTRIC TYPE) SUBSCRIPT 'CO' DENOTES ADDRESSABLE CO/SMOKE COMBINATION DETECTOR WITH SOUNDBASE
	SPEAKER ONLY (AUDIBLE NOTIFICATION)
	FIRE ALARM ANNUNCIATOR
	FIRE ALARM REMOTE ANNUNCIATOR
	FIRE ALARM CONTROL PANEL
	FIRE ALARM EMERGENCY GENERATOR SUPERVISION DEVICES AND REMOTE CONTROL PANEL
	STAIRWELL PRESSURIZATION SYSTEM CONTROL PANEL
	EMERGENCY AND STANDBY POWER ANNUNCIATOR PANEL
	AREA OF REFUGE EMERGENCY COMMUNICATION SYSTEM REMOTE UNIT
	AREA OF REFUGE EMERGENCY COMMUNICATION SYSTEM MASTER UNIT
	FIRE ALARM PRINTER
	TAMPER SWITCH
	FLOW SWITCH

FIRE ALARM NOTES:

- THE WORD PROVIDED IN THESE ELECTRICAL SPECIFICATIONS AND DRAWINGS MEANS TO FURNISH AND INSTALL.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CHASES, OPENINGS, HOLES, SLEEVES, DRILLING ETC. PERTAINING TO HIS WORK.
- SUBMIT SHOP DRAWINGS FOR ALL ELECTRICAL EQUIPMENT AND DEVICES. OBTAIN LOCAL FIRE MARSHALL APPROVAL PRIOR TO SUBMISSION OF SHOP DRAWINGS.
- FLEXIBLE STEEL CONDUITS MAY BE USED ABOVE HUNG CEILING AND IN WALLS IN LENGTHS AS REQUIRED. ALL METAL CONDUIT SHALL BE GALVANIZED ELECTRIC METALLIC TUBING WITH SET-SCREW FITTINGS.
- MINIMUM CONDUIT SIZE SHALL BE 3/4" UNLESS OTHERWISE NOTED.
- FURNITURE, IF SHOWN, IS FOR REFERENCE ONLY AND IS NOT IN CONTACT, U.O.N.
- ALL EXISTING AND NEW FLOOR OR WALL PENETRATIONS FOR CONDUITS SHALL BE FULLY PACKED AND SEALED IN ACCORDANCE WITH THE APPLICABLE BUILDING AND FIRE CODES.
- FURNISH AND INSTALL UNDERWRITERS LABORATORIES, INC. (UL) LABELED DEVICES THROUGHOUT.
- NO CONDUIT SHALL BE RUN IN ANY RUN IN CONTACT WITH THE EARTH UNLESS OTHERWISE DIRECTED ON THE PLAN.
- FIRE ALARM WIRING ABOVE CEILINGS MUST BE APPROVED FOR PLENUM USE. WIRING IN EXPOSED AREAS (STORAGE, MECHANICAL/ELECTRICAL ROOMS/ETC.) SHALL BE IN CONDUIT AND THE CONDUIT AND BOXES SHALL BE PAINTED RED PRIOR TO INSTALLATION. WIRING ON FINISHED EXPOSED SURFACES (IN LOBBIES, CORRIDORS, OFFICES ETC.) SHALL BE IN SURFACE METAL RACEWAYS AS APPROVED BY THE OWNER.
- PULL AND JUNCTION BOXES SHALL BE SURFACE TYPE IN UNFINISHED AREAS AND FLUSH TYPE IN FINISHED AREAS. UNLESS OTHERWISE NOTED, THE JUNCTION AND PULL BOXES SHALL BE LOCATED APPROXIMATELY WHERE INDICATED ON THE PLAN TO SUIT CONDUIT ENTRANCE, BUT SHALL IN ALL CASES, BE LOCATED TO AVOID INTERFERENCE WITH EQUIPMENT FROM OTHER TRADES AND SHALL BE LOCATED SO THAT COVERS ARE READILY ACCESSIBLE.
- SURVEY FIELD CONDITIONS AND VERIFY THAT WORK IS FEASIBLE AS SHOWN. VERIFY LOCATION OF OUTLETS IN RELATION TO STRUCTURAL AND OTHER ELEMENTS AS REQUIRED. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.
- EXISTING FIRE ALARM SYSTEM AND DEVICES, WIRING ETC. SHALL NOT BE DISABLED IN ANY RESPECT PRIOR TO THE NEW DEVICES BEING INSTALLED, TESTED AND APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
- EXISTING FIRE ALARM SYSTEM AND DEVICES, WIRING ETC. SHALL NOT BE DISABLED IN ANY RESPECT PRIOR TO THE NEW DEVICES BEING INSTALLED, TESTED AND APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
- FIRE ALARM SYSTEM MANUFACTURER SHALL BE ".....". SUBSTITUTION OF MANUFACTURER WILL NOT BE CONSIDERED.
- RISER DIAGRAM IS A GENERALIZED REPRESENTATION OF THE FIRE ALARM SYSTEM AND IS INTENDED TO SHOW THE OVERALL SYSTEM ARCHITECTURE. IT IS NOT A WIRING DIAGRAM. FIRE ALARM VENDOR SHALL PROVIDE A DETAILED SYSTEM LAYOUT AND DESIGN, INCLUDING ALL DEVICE LOCATIONS, BOOSTER PANELS, CONTROL AND MONITORING MODULES, AND BATTERY CALCULATIONS THAT COMPLIES WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
- DEVICES SHALL BE INDIVIDUALLY WIRED TO THE FACP AS RECOMMENDED BY THE FACP MANUFACTURER. ALL FIRE ALARM WIRING SHALL BE CONTINUOUS WITHOUT SPLICES AND SHALL BE INSTALLED PER BUILDING STANDARD.
- ALL FIRE ALARM WIRING SHALL BE CONTINUOUS WITHOUT SPLICES AND SHALL BE INSTALLED PER BUILDING STANDARD.
- PROVIDE BOOSTER PANEL(S)/POWER MODULE(S), SIGNAL LINE CIRCUIT (ADDRESS) EXPANSION MODULES OR INTERFACES, AND ANY OTHER REQUIRED FIRE ALARM SYSTEM EXPANSION COMPONENTS THAT ARE REQUIRED TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM THAT MEETS THE CODES AND REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION (AHJ).
- RELEASE WILL BE CONDITIONAL UPON SUBMITTAL OF SIGNED AND SEALED FIRE ALARM SYSTEM SHOP DRAWINGS. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO SYSTEM INSTALLATION, AND SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL OF THE FOLLOWING:
 - A) A FLOOR PLAN DRAWN TO SCALE THAT INDICATES THE USE OF ALL ROOMS
 - B) LOCATIONS OF ALARM-INITIATING DEVICES.
 - C) LOCATIONS OF ALARM NOTIFICATION APPLIANCES, INCLUDING CANDELA RATINGS FOR VISIBLE ALARM NOTIFICATION APPLIANCES
 - D) LOCATION OF FIRE ALARM CONTROL UNIT, TRANSpondERS AND NOTIFICATION POWER SUPPLIES.
 - E) ANNUNCIATORS.
 - F) POWER CONNECTION.
 - G) BATTERY CALCULATIONS.
 - H) CONDUCTOR TYPE AND SIZES.
 - I) VOLTAGE DROP CALCULATIONS.
 - J) MANUFACTURER'S DATA SHEETS INDICATING MODEL NUMBERS AND LISTING INFORMATION FOR EQUIPMENT, DEVICES AND MATERIALS.
 - K) DETAILS OF CEILING HEIGHT AND CONSTRUCTION.
 - L) THE INTERFACE OF FIRE SAFETY CONTROL FUNCTIONS.
 - M) CLASSIFICATION OF THE SUPERVISING STATION.
 - N) FIRE DEPARTMENT RESPONSE POINT(S) AND ANNUNCIATOR LOCATION(S).
 - O) COMPLETE SEQUENCE OF OPERATIONS DETAILING ALL INPUTS AND OUTPUTS.
 - P) ALL DOCUMENTS PREPARED BY PEOPLE OTHER THAN THE DESIGN PROFESSIONAL SHALL BE REVIEWED BY THE DESIGN PROFESSIONAL AND A SIGNED AND SEALED LETTER SUBMITTED INDICATING THAT THEY HAVE BEEN REVIEWED AND FOUND TO BE IN CONFORMANCE WITH THE REGULATIONS FOR THE DESIGN OF THE BUILDING PER NJAC 5:23-2.15(F).XII(1) A STAMP OR LABEL PLACED ON DRAWINGS BY THE DESIGN PROFESSIONAL IS NOT ACCEPTABLE. THE DESIGN PROFESSIONAL IS THE ARCHITECT OR ENGINEER THAT IS RESPONSIBLE FOR THE TOTAL DESIGN OF THE PROJECT.
 - Q) SHOP DRAWING FOR FIRE ALARM SYSTEMS SHALL BE SIGNED AND SEALED BY A NEW JERSEY LICENSED PROFESSIONAL ARCHITECT OR ENGINEER. SUBMITTAL TO MEET THE SUBMITTAL REQUIREMENTS OF IBC 2015 SECTION 907.1.2

LIGHTNING PROTECTION SYMBOLS

- AIR TERMINAL
- V.T.R.
- ROOF DRAIN
- THRU-ROOF
- STUBOUT LOCATION
- ROBBINS CAT. NO. A3 ALUMINUM CABLE EXPOSED (24 STR., X 14 GA.)
- CAT. NO. 6 COPPER CABLE DOWNLEAD (30 STR., X 17 GA. - 2 AWG.)
- ROBBINS CAT. NO. A11C ALUMINUM BONDING WIRE (#4 AWG.)
- GROUND ROD LOCATION

GENERAL NOTES

THE DESIGN & DETAILS SHOWN WILL MEET THE REQUIREMENTS OF UNDERWRITERS LABORATORY CODE 98096A, NATIONAL FIRE PROTECTION ASSOCIATION CODE 780 & THE LIGHTNING PROTECTION INSTITUTE CODE 176 FOR LIGHTNING PROTECTION SYSTEMS

- A CONDUCTOR BEND SHALL NOT FORM A SHARPER ANGLE THAN 90 DEGREES OR HAVE A RADIUS LESS THAN 8 INCHES.
- METAL BODIES OF INDUCTANCE LOCATED WITHIN 6' OF A MAIN LIGHTNING COMPONENT SHALL BE BONDED TO THE LIGHTNING PROTECTION SYSTEM. (INCLUDING BUT NOT LIMITED TO METAL VENTS, FLASHING, LOUVERS & ROOF DRAINS.)
- CONNECTIONS TO GROUND AND/OR COUNTERPOISE SHALL BE MADE AT A POINT NOT LESS THAN 2'-0" BELOW GRADE, AND 3'-0" TO 8'-0" AWAY FROM FOUNDATION WALL.
- AIR TERMINAL SHALL BE PLACED AT THE LOCATIONS INDICATED, NOT MORE THAN 2'-0" FROM THE ENDS OF RIDGES, OUTSIDE CORNERS, OR OUTSIDE EDGES OF MAIN ROOFS, AND MUST EXTEND A MINIMUM OF 10" ABOVE THE OBJECT TO BE PROTECTED.
- MID-ROOF AIR TERMINALS SHALL BE SPACED AT 60" O.C. MAX. SPACING PERIMETER AIR TERMINALS THAT ARE LESS THAN 24" IN HEIGHT SHALL BE SPACED AT 20" O.C. MAX. PERIMETER AIR TERMINALS THAT ARE 24" IN HEIGHT OR GREATER SHALL BE SPACED AT 25" O.C. MAX.
- JOB CONDITIONS MAY DICTATE SLIGHT VARIATIONS IN AIR TERMINAL AND GROUND ROD LOCATIONS, BUT IN NO INSTANCE SHALL A VARIATION BREAK COMPLIANCE WITH THESE NOTES AND REQUIREMENTS.
- CONDUCTORS SHALL MAINTAIN A HORIZONTAL OR DOWNWARD PATH FREE FROM "U" AND "V" POCKETS. ANY RISE IN CONDUCTOR SHALL BE NO STEEPER THAN 3" OF RISE PER 12" OF RUN.
- COPPER LIGHTNING PROTECTION MATERIALS SHALL NOT BE PLACED ON ALUMINUM, GALVALUM, OR BARE GALVANIZED STEEL SURFACES. ALUMINUM MATERIALS SHALL NOT BE PLACED ON COPPER SURFACES.
- FOR THE SAKE OF CLARITY WE HAVE NOT CALLED OUT EACH INDIVIDUAL ITEM OF LIGHTNING PROTECTION MATERIALS ON THE ROOF PLAN. WE HAVE SHOWN TYPICAL DETAILS AND HAVE CALLED OUT EACH OF THESE DETAILS ON THE ROOF PLAN, ONLY IN SCATTERED LOCATIONS.
- ALL MISCELLANEOUS STEEL INCLUDING BUT NOT LIMITED TO STRUCTURAL, STEEL, REBAR, FRAMES & RAILINGS, SHALL BE MADE ELECTRICALLY CONTINUOUS THROUGH CONSTRUCTION (NOT THE RESPONSIBILITY OF THE LIGHTNING PROTECTION CONTRACTOR.)
- ELECTRIC, TELEPHONE, ANTENNA SYSTEM, AND OTHER MISCELLANEOUS GROUNDS SHALL BE CONNECTED WITH MAIN SIZED CONDUCTOR TO ANY LIGHTNING PROTECTION GROUND.
- A LIGHTNING ARRESTOR, PROTECTOR, OR ANTENNA-DISCHARGE UNIT MUST BE INSTALLED ON EACH ELECTRIC AND TELEPHONE SERVICE ENTRANCE AND RADIO AND TELEVISION ANTENNA LEAD IN. (TO BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.)
- ALL ADHESIVE FIXTURES SHALL BE SET WITH AN ADHESIVE COMPOUND COMPATIBLE WITH THE ROOFING MATERIAL. ADHESIVES SHALL BE APPROVED IN ADVANCE BY THE ROOFING CONTRACTOR.
- BOND ALL METAL PIPES SUCH AS WATER, GAS, FIRE, STORM, SEWER WHICH ENTER THE STRUCTURE TO THE NEAREST DOWNLEAD, GROUND ROD OR COUNTERPOISE.
- SEAL THE ENDS OF CONDUIT MOISTURE TIGHT WITH DUCT SEAL, SILICONE OR LEAD WEDGES (NOT THE RESPONSIBILITY OF THE LIGHTNING PROTECTION CONTRACTOR.)
- CABLE MUST BE FASTENED EVERY 3'-0" O.C. MAXIMUM.
- THE LIGHTNING PROTECTION INSTALLER IS TO CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE THE WORK IS STARTED. INSTALLERS WHO FAIL TO VERIFY, REVIEW, AND COORDINATE THE WORK SHALL TAKE FULL RESPONSIBILITY FOR THE WORK AND ANY PORTION OF THE WORK THAT IS IMPROPERLY INSTALLED OR LOCATED. THE INSTALLER SHALL NOTIFY THE DESIGNER IF DIMENSIONAL ERRORS OR DESIGN CONFLICTS OCCUR, AND SHALL PROCEED ONLY UPON CLARIFICATION OR REVISION AS ISSUED BY ROBBINS LIGHTNING, INC.
- ALL LIGHTNING PROTECTION SYSTEMS REQUIRE PROPERLY INSTALLED SURGE PROTECTIVE DEVICES AS OBTAINED IN PARAGRAPH 13 OF U.L. 98A.
- WHERE POSSIBLE, SECURELY INSERT CABLE INTO EXISTING SPLICER OR POINT BASE TO CONSERVE SPLICERS.
- PICTURES NEED TO BE TAKEN WHERE BONDS ARE GOING TO BE CONCEALED OR BURIED SUCH AS WATER, GAS, & ELECTRIC BONDS, GROUND RODS, THRU WALLS & THRU ROOFS, (INTERIOR PICTURES).
- THIS SYSTEM INCLUDES BONDING TO GAS PIPING PER CURRENT CODES. IF "CSST" GAS PIPING IS PRESENT, CURRENT PRACTICE MAY BE INADEQUATE TO PREVENT FLASHOVER FROM THE LIGHTNING PROTECTION SYSTEM. BONDING METHODS ARE UNDER CODE REVIEW. THE LIGHTNING PROTECTION MANUFACTURER, INSTALLER, LPI AND LPI-P ACCEPT NO LIABILITY DUE TO LACK OF CONSENSUS ON MEASURES REQUIRED TO PREVENT DAMAGE, INJURY, OR LOSS DUE TO "CSST" FAILURES.
- ALL ADDITIONAL GROUNDING SHALL BE PROVIDED & INSTALLED BY OTHERS, I.E.: TRANSFORMERS, BUS-BAR, ETC.
- ALL CIRCUITS SERVING DORMITORY AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER AS PER 212.12(A)(1)

TACTICAL TRAINING DESIGN

Tactical Design North, Inc.

231 E. Buffalo St #502, Milwaukee, WI 53202

LOCAL ARCHITECT

Jacobs Wyper Architects

1232 Chancellor St, Philadelphia, PA 19107

STRUCTURAL ENGINEER

Skidmore, Owings & Merrill LLP

250 Greenwich St, New York, NY 10007

ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER

A & J Consulting Engineering Services, P.C.

164 Brighton Rd, Clifton, NJ 07012

MECHANICAL, AVIT ENGINEER

Interface Engineering, Inc.

2000 M Street NW, Suite 270, Washington, DC 20036

ACOUSTICAL ENGINEER

Cerami

1001 Ave of the Americas, 4th Floor, New York, NY 10018

CODE CONSULTANT

CCI

215 W 40th St, 10th Floor, New York, NY 10018

CIVIL ENGINEER

Langan

1818 Market St #3300, Philadelphia, PA 19103

TECHNICAL TRANSPORT

Michael Blades & Associates Ltd.

5409 Rapihan Ct, Lothian, MD 20711

SIGNAGE CONSULTANT

Patricia Hord Graphik Design

119 S. St. Asaph St, Alexandria, VA 22314

LANDSCAPE

Lee and Associates, Inc.

6381 I Street NW, Washington, DC 20001

LIGHTING

MCLA

1000 Potomac St NW, Suite 121, Washington, DC 20007

FOOD SERVICE

Hopkins Foodservice Specialists, Inc.

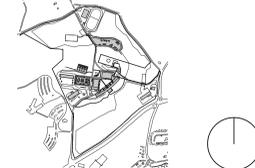
7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

Aqua Design International

7536 N. La Cholla Blvd Tucson, AZ 85741

KEYPLAN



2	JUN 2023	ADDENDUM 28		
1	19 MAY 2023	ISSUED FOR BID		
NO.	DATE	DESCRIPTION	NO.	DATE

RECORD REVISIONS



Jitendra K Agarwal
2023-06-16
SIGNATURE DATE

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

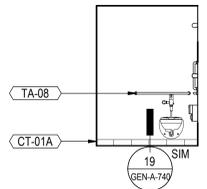
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No. C-0211-0005 PHASE 5
Pennsylvania State Police Academy Core buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

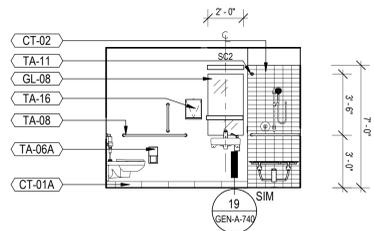
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IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY		CHECKED BY MK	
CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.		DATE APR 2022	
SCALE AS NOTED			

ELECTRICAL SYMBOLS, ABBEVIATIONS AND NOTES

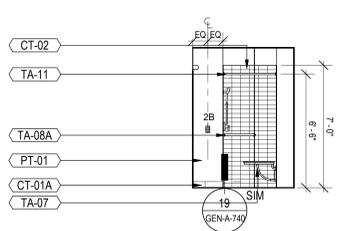
28 ADA Q BATH - WEST
SCALE: 1/4" = 1'-0"



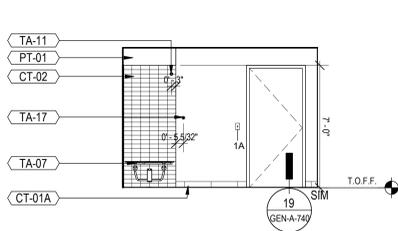
27 ADA Q BATH - NORTH
SCALE: 1/4" = 1'-0"



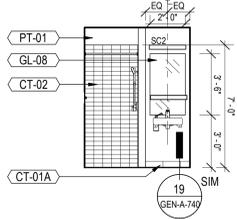
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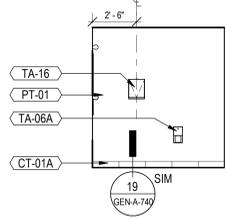
25 ADA Q BATH - SOUTH
SCALE: 1/4" = 1'-0"



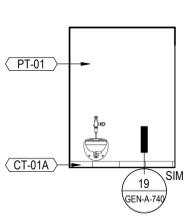
24 Q BATHROOM - WEST
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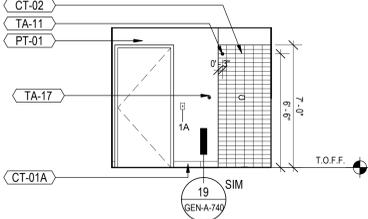
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SCALE: 1/4" = 1'-0"



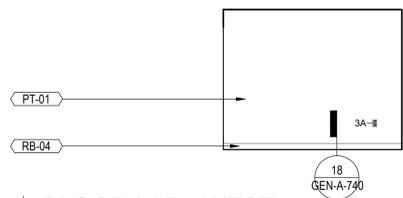
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SCALE: 1/4" = 1'-0"



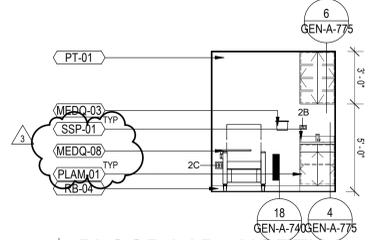
21 Q BATHROOM - SOUTH
SCALE: 1/4" = 1'-0"



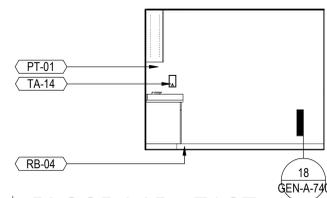
20 BLOOD LAB - WEST
SCALE: 1/4" = 1'-0"



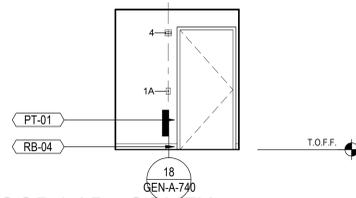
19 BLOOD LAB - NORTH
SCALE: 1/4" = 1'-0"



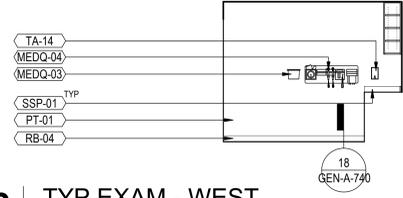
18 BLOOD LAB - EAST
SCALE: 1/4" = 1'-0"



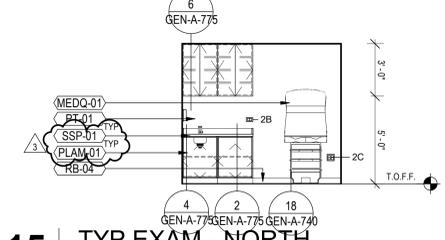
17 BLOOD LAB - SOUTH
SCALE: 1/4" = 1'-0"



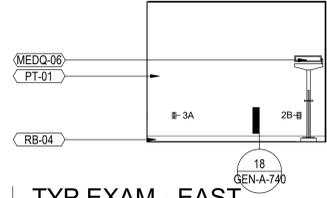
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SCALE: 1/4" = 1'-0"



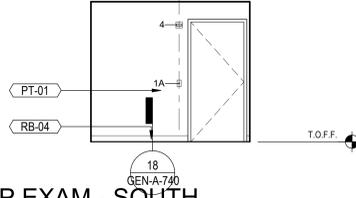
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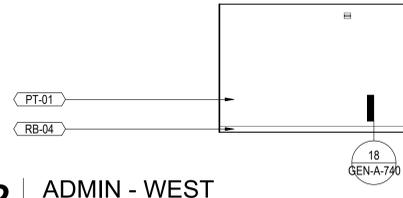
14 TYP EXAM - EAST
SCALE: 1/4" = 1'-0"



13 TYP EXAM - SOUTH
SCALE: 1/4" = 1'-0"



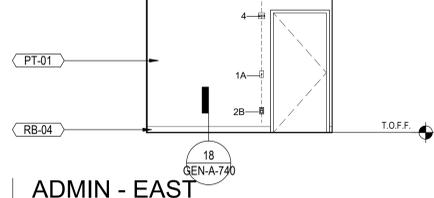
12 ADMIN - WEST
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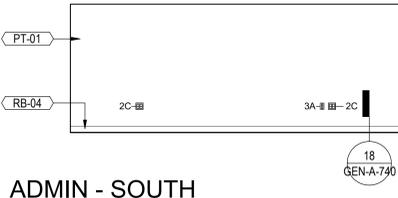
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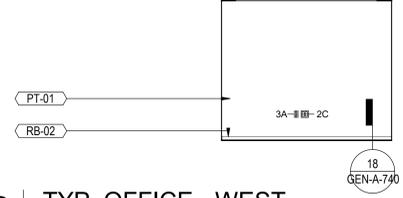
10 ADMIN - EAST
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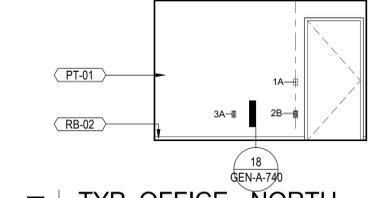
9 ADMIN - SOUTH
SCALE: 1/4" = 1'-0"



8 TYP. OFFICE - WEST
SCALE: 1/4" = 1'-0"



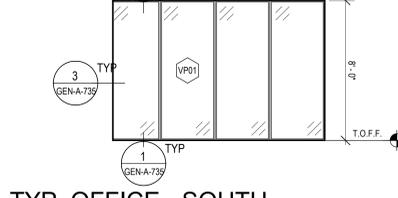
7 TYP. OFFICE - NORTH
SCALE: 1/4" = 1'-0"



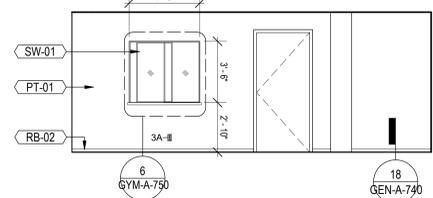
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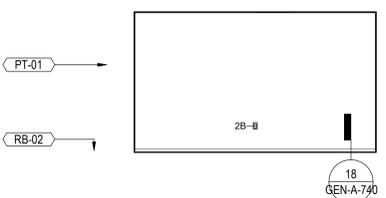
5 TYP. OFFICE - SOUTH
SCALE: 1/4" = 1'-0"



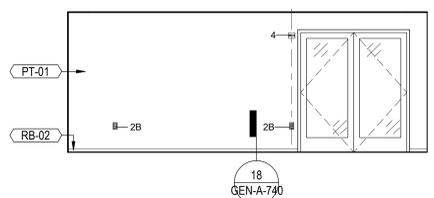
4 RECEPTION - WEST
SCALE: 1/4" = 1'-0"



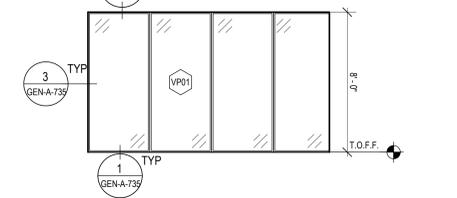
3 RECEPTION - NORTH
SCALE: 1/4" = 1'-0"



2 RECEPTION - EAST
SCALE: 1/4" = 1'-0"



1 RECEPTION - SOUTH
SCALE: 1/4" = 1'-0"



LEGEND

FIRE RATINGS

- 1/2 HOUR FIRE RATING
- 1 HOUR FIRE RATING
- 2 HOUR FIRE RATING
- 3 HOUR FIRE RATING

DRAWING NOTE

1 SWITCH

2 ELECTRICAL OUTLET

3 DATA OUTLET

4 FIRE ALARM STROBE

5 THERMOSTAT

6 WALL CLOCK

7 PULL STATION

8 SECURITY CAMERA

9 CARD READER

10 ADA PUSH BUTTON

11 FLOOR BOX

12 WAP

GENERAL NOTES

- ALL DIFFUSERS, REGISTERS AND GRILLES ARE BY THE 2 HVAC CONTRACTOR AND ARE SHOWN FOR LOCATION AND COORDINATION ONLY. UNO.
- ALL PLUMBING FIXTURES, SPRINKLERS, FITS, AND STANDPIPES AND RELATED EQUIPMENT ARE BY THE 4 PLUMBING CONTRACTOR AND ARE SHOWN FOR LOCATION AND COORDINATION ONLY. UNO.
- ALL RECEPTACLES, LIGHTS SWITCHES, TELE/ DATA RECEPTACLES, TELECOM EQUIPMENT AND AV EQUIPMENT ARE BY THE 4 ELECTRICAL CONTRACTOR AND ARE SHOWN FOR LOCATION AND COORDINATION ONLY. UNO.
- REFERENCE GEN-G-103 FOR STANDARD MOUNTING HEIGHTS AND DETAILS.
- REFERENCE ALSO POWER, COMMUNICATIONS AND FINISH PLANS AND GEN-G-103 FOR STANDARD DEVICE MOUNTING ARRANGEMENTS, ALIGNMENTS AND DIMENSIONAL INFORMATION.
- ALIGN WALL TILE JOINTS TO FLOOR TILE JOINT LINES.
- CONFIRM FINAL TILE JOINT LAYOUT WITH PROFESSIONAL PRIOR TO INSTALLATION.
- FOR ALL DEVICES CUT OUT OF WALL PADDING, REFER TO DETAIL X-1 GYM-A-725.

DRAWING NOTES

KEYNOTES

CT-01A	093000	CERAMIC TILE BASE GRAY		
CT-02	093000	2" X 2" CERAMIC TILE WHITE		
GL-08	088000	MIRROR GLASS	3	20 JUN 2022
MEDQ-01	117000	EXAM TABLE	2	19 MAY 2023
MEDQ-03	117000	SHARPS CONTAINER	1	18 FEB 2022
MEDQ-04	117000	DIAGNOSTIC EQUIPMENT		
MEDQ-06	117000	SCALE		
MEDQ-08	117000	BLOOD LAB CHAIR		
PLAM-01	094000	PLASTIC LAMINATE, WHITE		
PT-01	099100	PAINT FINISH, WHITE		
RB-02	096500	RUBBER BASE - 2 1/2" - GRAY		
RB-04	096500	RUBBER BASE - 4" - GRAY		
SW-01	085600	HORIZONTAL SLIDING SERVICE WINDOW		
TA-06A	102813	SINGLE SIDED TOILET TISSUE DISPENSER		
TA-07	102813	ADA SHOWER SEAT		
TA-08	102813	GRAB BAR		
TA-08A	102813	L SHAPED GRAB BAR		
TA-11	102813	SHOWER ROD WITH CURTAIN HOOKS		
TA-14	102813	WALL MOUNTED SOAP DISPENSER		
TA-16	102813	PAPER TOWEL HOLDER		
TA-17	102813	TOWEL HOOK		

VERIFY SCALE

BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING: 0 1

IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY.

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.

TACTICAL TRAINING DESIGN

Tactical Design North, Inc.
231 E. Buffalo St #502, Milwaukee, WI 53202

JACOBS WYPER ARCHITECTS
1232 Chancellor St, Philadelphia, PA 19107

STRUCTURAL ENGINEER

Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, NY 10007

ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER

A & J Consulting Engineering Services, P.C.
164 Brighton Rd, Clifton, NJ 07012

MECHANICAL AVIT ENGINEER

Interface Engineering, Inc.
2000 M Street NW, Suite 270, Washington, DC 20036

ACOUSTICAL ENGINEER

Cerami
1001 Ave of the Americas, 4th Floor, New York, NY 10018

CODE CONSULTING

CCI
215 W 40th St, 10th Floor, New York, NY 10018

CIVIL ENGINEER

Langan
1818 Market St #3300, Philadelphia, PA 19103

VERTICAL TRANSPORT

Michael Blades & Associates Ltd.
5409 Rapiant Ct, Lothian, MD 20711

SIGNAGE CONSULTANT

Patricia Hord Graphik Design
119 S. St. Asaph St, Alexandria, VA 22314

LANDSCAPE

Lee and Associates, Inc.
6381 Street NW, Washington, DC 20001

LIGHTING

MCLA
1000 Potomac St NW, Suite 121, Washington, DC 20007

FOOD SERVICE

Hopkins Foodservice Specialists, Inc.
7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

AQUA Design International
7536 N. La Cholla Blvd, Tucson, AZ 85741

KEYPLAN

RECORD REVISIONS

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
3	20 JUN 2022	ADDENDUM 28			
2	19 MAY 2023	ISSUED FOR BID			
1	18 FEB 2022	ISSUED TO L&I			

SIGNATURE _____ **DATE** _____

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

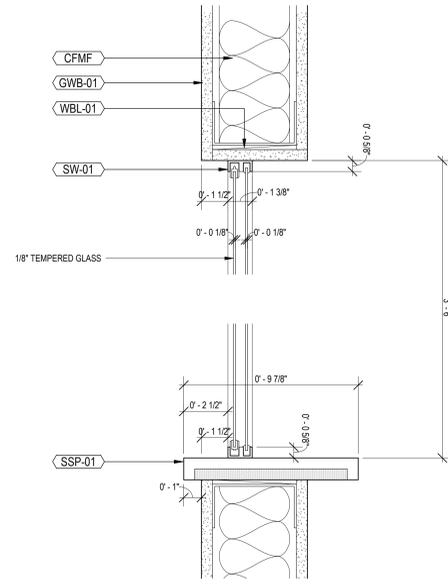
D.G.S. PROJECT No. **C-0211-0005 PHASE 5**

Pennsylvania State Police Academy
Core Buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

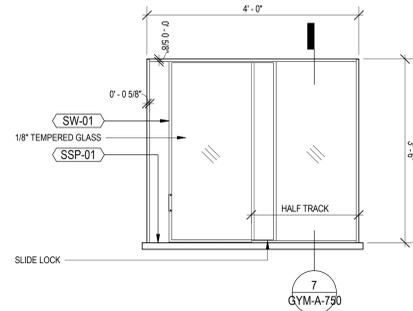
INTERIOR ELEVATIONS - MEDICAL UNIT

SHEET No. **GYM-A-656**

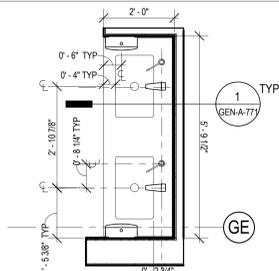
DRAWN BY **SS** CHECKED BY **MP** DATE **SEPT 2022** SCALE **AS NOTED**



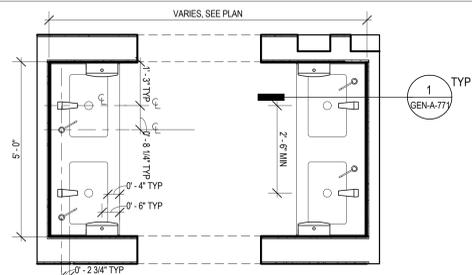
7 SECTION - TRANSACTION WINDOW
SCALE: 3" = 1'-0"



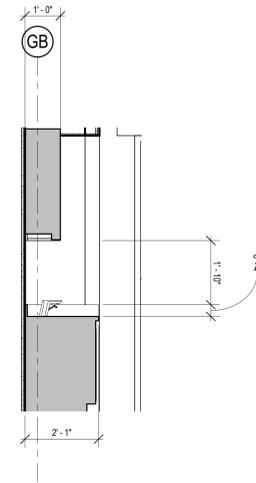
6 ELEV - TRANSACTION WINDOW
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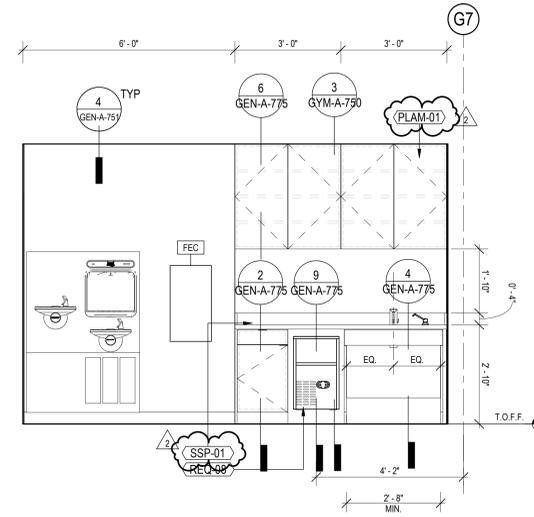
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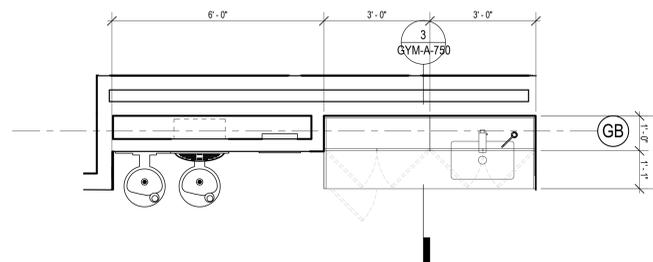
4 TYPICAL LOCKER ROOM VANITY
SCALE: 1/2" = 1'-0"



3 INTERIOR SECTION - DISPENSARY AREA
SCALE: 1/2" = 1'-0"



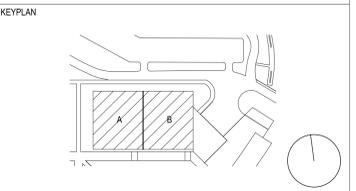
2 INTERIOR ELEVATION - DISPENSARY AREA
SCALE: 1/2" = 1'-0"



1 FLOOR PART PLAN - DISPENSARY AREA
SCALE: 1/2" = 1'-0"

KEYNOTES	
CFMF	054300 COLD-FORMED METAL FRAMING
GWB-01	062116 5/8" TYPE "X" GYPSUM BOARD
PLAM-01	054300 PLASTIC LAMINATE, WHITE
REQ-08	113000 UNDER COUNTER ICE MAKER
SSP-01	054300 SOLID SURFACE - WHITE
SW-01	055600 HORIZONTAL SLIDING SERVICE WINDOW

TACTICAL TRAINING DESIGN	
Tactical Design North, Inc. 231 E. Buffalo St #502, Milwaukee, WI 53202	
LOCAL ARCHITECT	
Jacobs Wyper Architects 1232 Chancellor St, Philadelphia, PA 19107	
STRUCTURAL ENGINEER	
Skidmore, Owings & Merrill LLP 250 Greenwich St, New York, NY 10007	
ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER	
A & J Consulting Engineering Services, P.C. 164 Brighton Rd, Clifton, NJ 07012	
MECHANICAL AVIATION ENGINEER	
Interface Engineering, Inc. 2000 M Street NW, Suite 270, Washington, DC 20036	
ACOUSTICAL ENGINEER	
Cerami 1001 Ave of the Americas, 4th Floor, New York, NY 10018	
CODE CONSULTING	
CCI 215 W 40th St, 10th Floor, New York, NY 10018	
CIVIL ENGINEER	
Langan 1818 Market St #3300, Philadelphia, PA 19103	
VERTICAL TRANSPORT	
Michael Blades & Associates Ltd. 5409 Rapidan Ct, Lothian, MD 20711	
SIGNAGE CONSULTANT	
Patricia Hord Graphik Design 119 S. St. Asaph St, Alexandria, VA 22314	
LANDSCAPE	
Lee and Associates, Inc. 638 I Street NW, Washington, DC 20001	
LIGHTING	
MCLA 1000 Potomac St NW, Suite 121, Washington, DC 20007	
FOOD SERVICE	
Hopkins Foodservice Specialists, Inc. 7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818	
POOL DESIGN	
AQUA Design International 7536 N. La Cholla Blvd, Tucson, AZ 85741	



RECORD REVISIONS					
NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
2	23 JUNE 2023	ADDENDUM 2B			
1	19 MAY 2023	ISSUED FOR BID			

SIGNATURE _____ DATE _____

ARCHITECT
SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

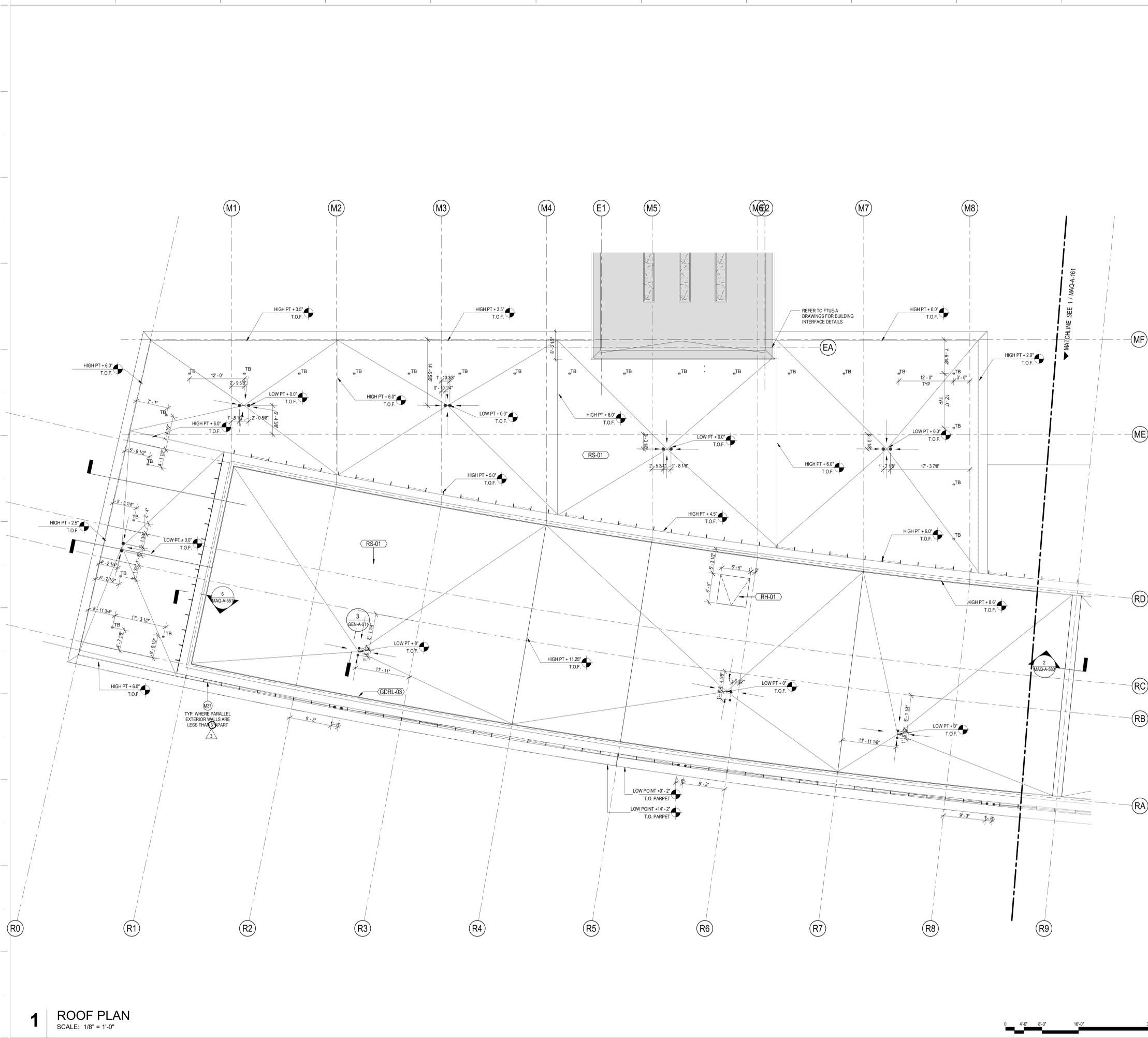
D.G.S. PROJECT No.
C-0211-0005 PHASE 5
Pennsylvania State Police Academy
Core Buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE

BAR IS ONE (1) INCH LONG
ON ORIGINAL DRAWING: 1
IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.

SHEET No. GYM-A-750			
DRAWN BY	CHECKED BY	DATE	SCALE
ML	TNB	SEPT 2022	AS NOTED



LEGEND

FIRE RATINGS

- 1/2 HOUR FIRE RATING
- 1 HOUR FIRE RATING
- 2 HOUR FIRE RATING
- 3 HOUR FIRE RATING

SCOPE REFERENCE HATCH

MILLWORK

B.P. BUILDING BASE POINT

W.P. WORK POINT

DRAWING NOTE

PARTITION TYPE

XX INDICATES COLD-FORMED METAL FRAMING

- GENERAL NOTES**
- ALL BUILDING ELEVATIONS ARE REFERENCED TO THE BUILDING REFERENCE DATUM. ELEVATION 0'-0" REFER TO GEN-G-100 FOR NAVD 88 DATUMS FOR EACH BUILDING.
 - REFER TO GEN-G-100 FOR GENERAL NOTES.
 - REFER TO GEN-G-101 FOR ACCESSIBILITY AND ADAPTABILITY GENERAL NOTES AND REQUIREMENTS.
 - REFER TO GEN-G-102 FOR SYMBOLS, ABBREVIATIONS AND LEGENDS.
 - REFER TO GEN-G-103 MOUNTING HEIGHTS.
 - REFER TO GEN-G-104 FOR MATERIAL LISTS AND EQUIPMENT LISTS.
 - REFER TO LS SERIES FOR CODE ANALYSIS AND REQUIRED WALL FIRE RATINGS.
 - REFER TO SITE DRAWINGS FOR SITE ORIGIN AND BUILDING ORIGIN POINTS.
 - REFER TO GEN-G-600 FOR EXTERIOR WALL ASSEMBLIES.
 - REFER TO GEN-G-730 FOR WINDOW SCHEDULES.
 - REFER TO GEN-G-710 - 712 FOR PARTITION SCHEDULES.
 - REFER TO GEN-G-715 - 719 FOR TYPICAL PARTITION DETAILS.
 - ALL SLAB PENETRATIONS FOR PIPES, CONDUITS, ETC OUTSIDE OF RATED SHAFTS ARE TO BE FIRE RATED TO MATCH THE RATING OF THE SLAB.
 - ALL PENETRATIONS THROUGH RATED WALL ASSEMBLIES ARE TO HAVE A FIRESTOP ASSEMBLY SYSTEM TO MATCH THE RATING OF THE WALL.
 - THE PRECISE NUMBER, SIZE AND LOCATION OF ALL HOUSEKEEPING PADS REQUIRED TO SUPPORT OR MAINTAIN MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION EQUIPMENT SHALL BE CONFIRMED WITH THE EQUIPMENT SUPPLIER.
 - ALL STRUCTURAL MEMBERS SHALL BE FIRE PROOFED IN ACCORDANCE WITH THE NOTES ON GEN-G-100.
 - PARTITIONS AT PERIMETER OF ALL TOILET ROOMS/ANTHOOLS CLOSETS ADJACENT TO MECHANICAL SHAFTS AND AT ALL LAUNDRY ROOMS/MECHANICAL ROOMS WITH WATER SHALL HAVE A CURB. AT GYPSUM PARTITIONS PROVIDE A 6" X 6" CURB. WHERE AT MASONRY WALLS, PROVIDE 6" TALL CURBS WITH WIDTH TO MATCH MASONRY ASSEMBLY.
 - ALL DOORS TO BE INSTALLED 4" ON HINGE SIDE FROM PERPENDICULAR PARTITIONS U.O.N.
 - FLOOR PLANS ARE CUT 4'-0" AFF TYPICAL.
 - INTERIOR LAYOUT DIMENSIONS ARE SHOWN TO FINISHED FACE OF GWS U.O.N.
 - PROVIDE SUPPLEMENTAL FRAMING, BLOCCING AND BRACING WHERE REQUIRED FOR WALL MOUNTED FIXTURES AND EQUIPMENT AT GWS WALL.

HATCHES

- PAVERS
- RIVER ROCK

DRAWING NOTES

M37 BCD-02 ON LEDGE

KEYNOTES

GDRL-03	055000	PIPE GUARDRAIL AND HANDRAIL
RH-01	077000	ROOF HATCH
RS-01	075200	SBS MEMBRANE ROOF ON CONCRETE

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TACTICAL TRAINING DESIGN

Tactical Design North, Inc.
231 E. Buffalo St #502, Milwaukee, WI 53202

LOCAL ARCHITECT

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1232 Chancellor St, Philadelphia, PA 19107

STRUCTURAL ENGINEER

Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, NY 10007

ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER

A & J Consulting Engineering Services, P.C.
164 Brighton Rd, Clifton, NJ 07012

MECHANICAL, AVIT ENGINEER

Interface Engineering, Inc.
2000 M Street NW, Suite 270, Washington, DC 20036

ACOUSTICAL ENGINEER

Cerami
1001 Ave of the Americas, 4th Floor, New York, NY 10018

CODE CONSULTING

CCI
215 W 40th St, 10th Floor, New York, NY 10018

CIVIL ENGINEER

Langan
1818 Market St #3300, Philadelphia, PA 19103

VEHICAL TRANSPORT

Michael Blades & Associates Ltd.
5409 Rapidan Ct, Lothian, MD 20711

SIGNAGE CONSULTANT

Patricia Hord Graphik Design
119 S. St. Asaph St, Alexandria, VA 22314

LANDSCAPE

Lee and Associates, Inc.
6381 I Street NW, Washington, DC 20001

LIGHTING

MCLA
1000 Potomac St NW, Suite 121, Washington, DC 20007

FOOD SERVICE

Hopkins Foodservice Specialists, Inc.
7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

Aqua Design International
7536 N. La Cholla Blvd Tucson, AZ 85741

KEYPLAN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
3	23 JUN 2023	ADDENDUM 28			
2	19 MAY 2023	ISSUED FOR BID			
1	18 FEB 2022	ISSUED TO I&I			

RECORD REVISIONS

SIGNATURE _____ DATE _____

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No. **C-0211-0005 PHASE 5**

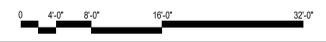
Pennsylvania State Police Academy
Core Buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

ROOF PART PLAN A

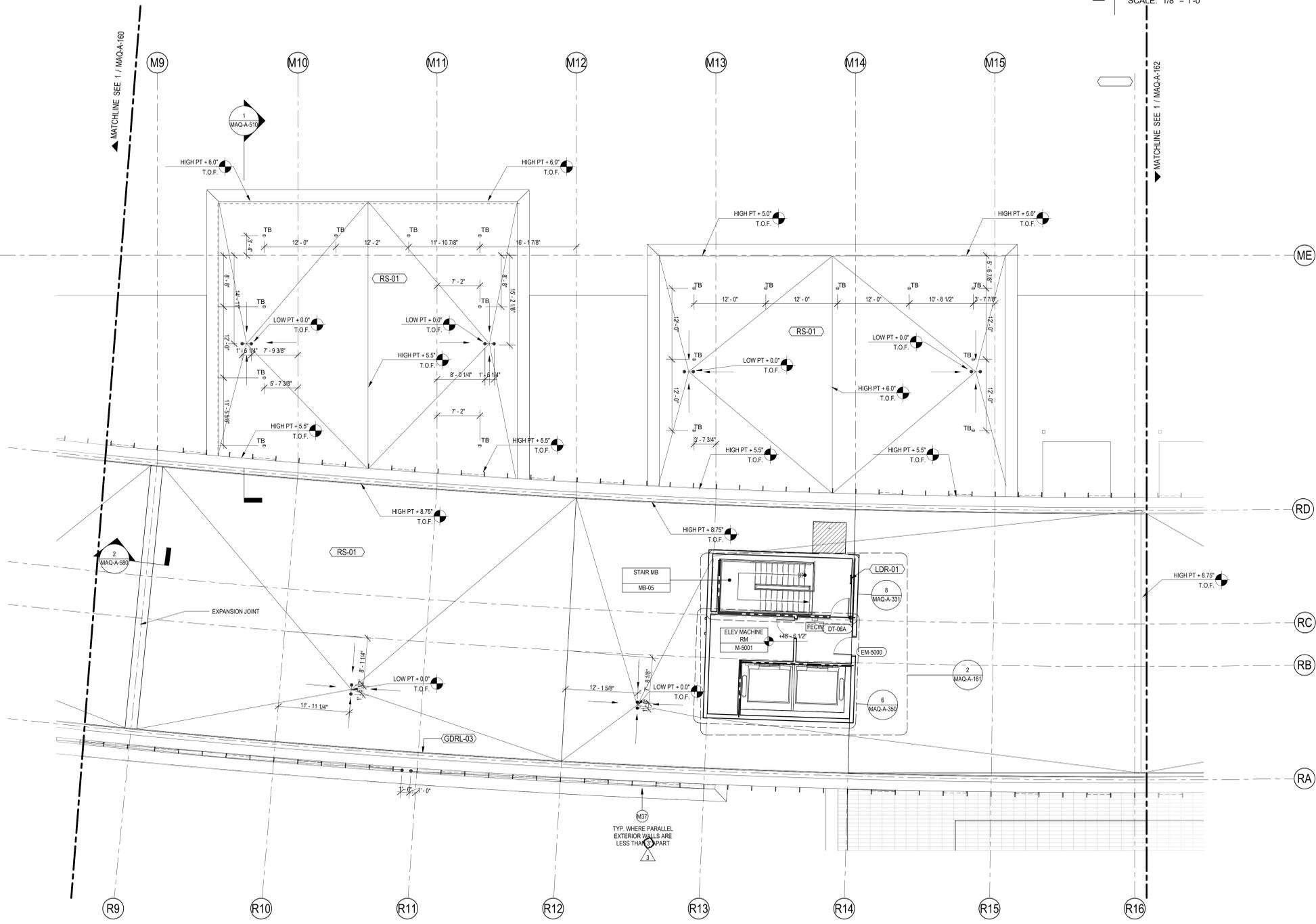
SHEET No. **MAQ-A-160**

DRAWN BY	CHECKED BY	DATE	SCALE
FH	TNB	SEPT 2022	AS NOTED

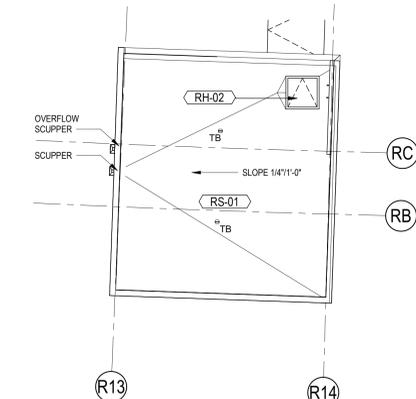
1 ROOF PLAN
SCALE: 1/8" = 1'-0"



1 ROOF PLAN
SCALE: 1/8" = 1'-0"



2 HIGH ROOF PLAN
SCALE: 1/8" = 1'-0"



LEGEND

- FIRE RATINGS**
- 1/2 HOUR FIRE RATING
 - 1 HOUR FIRE RATING
 - 2 HOUR FIRE RATING
 - 3 HOUR FIRE RATING
- SCOPE REFERENCE HATCH**
- MILLWORK
 - B.P. BUILDING BASE POINT
 - W.P. WORK POINT
 - XX DRAWING NOTE
 - XX PARTITION TYPE
 - XX INDICATES COLD-FORMED METAL FRAMING

GENERAL NOTES

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- FLOOR PLANS ARE CUT 4'-0" AFF TYPICAL.
- INTERIOR LAYOUT DIMENSIONS ARE SHOWN TO FINISHED FACE OF GWB U.O.N.
- PROVIDE SUPPLEMENTAL FRAMING, BLOCKING AND BRACING WHERE REQUIRED FOR WALL MOUNTED FIXTURES AND EQUIPMENT AT GWB WALL.

HATCHES

- PAVERS
- RIVER ROCK

DRAWING NOTES

M37	BCD-02 ON LEDGE
-----	-----------------

KEYNOTES

GDRL-03	055000	PIPE GUARDRAIL AND HANDRAIL
LDR-01	055000	MANUFACTURED FIXED BOH LADDER
RH-02	077000	ROOF HATCH
RS-01	075200	SBS MEMBRANE ROOF ON CONCRETE

TACTICAL TRAINING DESIGN

Tactical Design North, Inc.
231 E. Buffalo St #502, Milwaukee, WI 53202

LOCAL ARCHITECT

Jacobs Wyper Architects
1232 Chancellor St, Philadelphia, PA 19107

STRUCTURAL ENGINEER

Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, NY 10007

ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER

A & J Consulting Engineering Services, P.C.
164 Brighton Rd, Clifton, NJ 07012

MECHANICAL AVIT ENGINEER

Interface Engineering, Inc.
2000 M Street NW, Suite 270, Washington, DC 20036

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CODE CONSULTING

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CIVIL ENGINEER

Langan
1818 Market St #3300, Philadelphia, PA 19103

VEHICLE TRANSPORT

Michael Blades & Associates Ltd.
5409 Rapidan Ct, Lothian, MD 20711

SIGNAGE CONSULTANT

Patricia Hord Graphik Design
119 S. St. Asaph St, Alexandria, VA 22314

LANDSCAPE

Lee and Associates, Inc.
6381 Street NW, Washington, DC 20001

LIGHTING

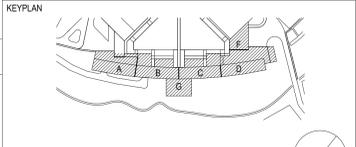
MCLA
1000 Potomac St NW, Suite 121, Washington, DC 20007

FOOD SERVICE

Hopkins Foodservice Specialists, Inc.
7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

Aqua Design International
7536 N. La Cholla Blvd Tucson, AZ 85741



NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
3	23 JUN 2023	ADDENDUM 28			
2	19 MAY 2023	ISSUED FOR BID			
1	18 FEB 2022	ISSUED TO L&I			

SIGNATURE: _____ DATE: _____

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No. C-0211-0005 PHASE 5

Pennsylvania State Police Academy
Core Buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE

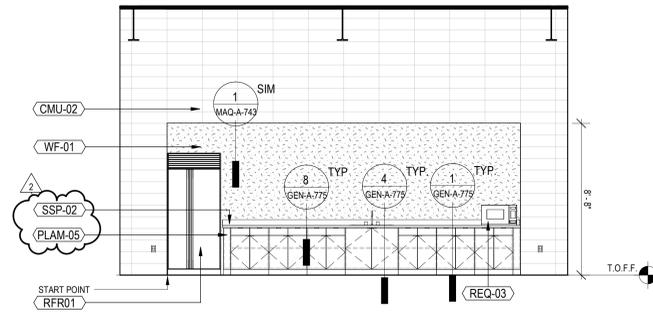
BAR IS ONE (1) INCH LONG
ON ORIGINAL DRAWING: 1
IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

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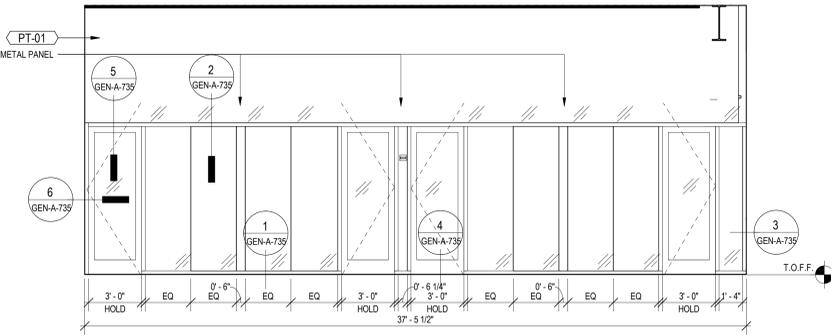
SHEET No. **MAQ-A-161**

DRAWN BY	CHECKED BY	DATE	SCALE
FH	TNB	SEPT 2022	AS NOTED

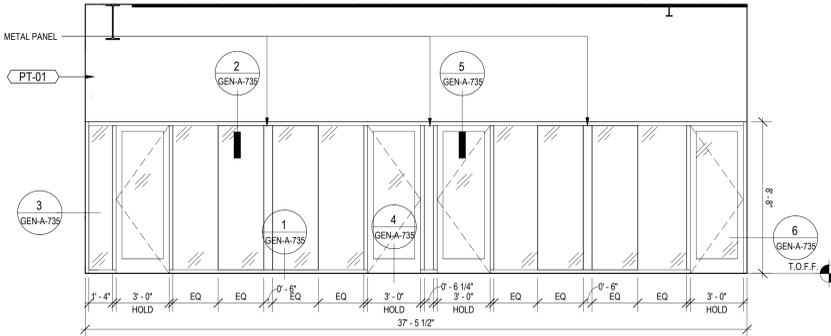
5 LVL 0 - OFFICE COFFEE POINT
SCALE: 1/4" = 1'-0"



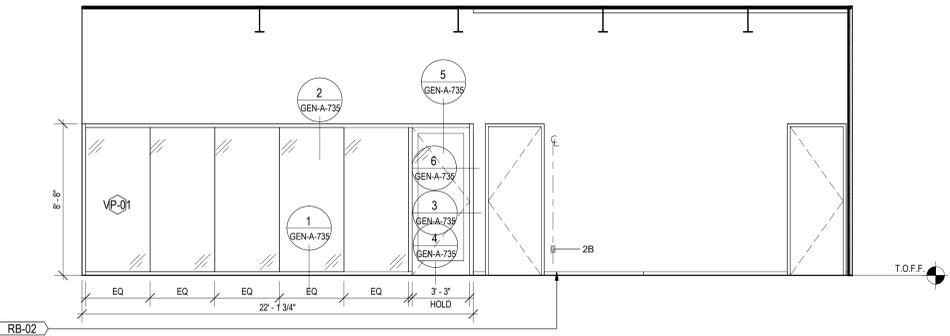
3 LVL 0 - OFFICE FRONT EAST
SCALE: 1/4" = 1'-0"



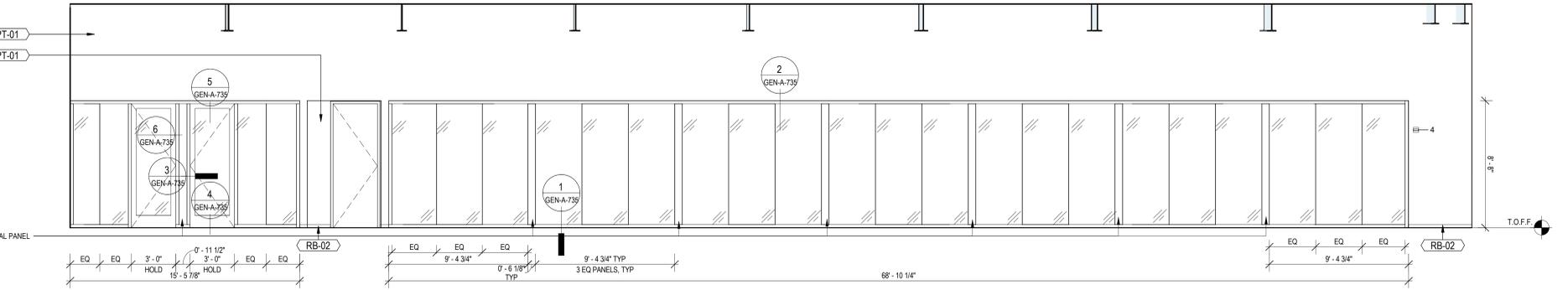
4 LVL 0 - OFFICE FRONT WEST
SCALE: 1/4" = 1'-0"



2 ELEVATION - LEVEL 0 CORRIDOR B NORTH
SCALE: 1/4" = 1'-0"



1 ELEVATION - LEVEL 0 CORRIDOR A NORTH
SCALE: 1/4" = 1'-0"



LEGEND

FIRE RATINGS	
----	1/2 HOUR FIRE RATING
----	1 HOUR FIRE RATING
----	2 HOUR FIRE RATING
----	3 HOUR FIRE RATING

DRAWING NOTE	
1	SWITCH
2	ELECTRICAL OUTLET
3	DATA OUTLET
4	FIRE ALARM STROBE
5	THERMOSTAT
6	WALL CLOCK
7	PULL STATION
8	SECURITY CAMERA
9	CARD READER
10	ADA PUSH BOTTON
11	FLOOR BOX
12	WAP

GENERAL NOTES

- ALL DIFFUSERS, REGISTERS AND GRILLES ARE BY THE 2 HVAC CONTRACTOR AND ARE SHOWN FOR LOCATION AND COORDINATION ONLY. UNO.
- ALL PLUMBING FIXTURES, SPRINKLERS, FRIS, AND STANDPIPES AND RELATED EQUIPMENT ARE BY THE 4 PLUMBING CONTRACTOR AND ARE SHOWN FOR LOCATION AND COORDINATION ONLY. UNO.
- ALL RECEPTACLES, LIGHTS SWITCHES, TELE/ DATA RECEPTACLES, TELECOM EQUIPMENT AND AV EQUIPMENT ARE BY THE 4 ELECTRICAL CONTRACTOR AND ARE SHOWN FOR LOCATION AND COORDINATION ONLY. UNO.
- REFERENCE GEN-G-103 FOR STANDARD MOUNTING HEIGHTS AND DETAILS.
- REFERENCE ALSO POWER COMMUNICATIONS AND FINISH PLANS AND GEN-G-103 FOR STANDARD DEVICE MOUNTING ARRANGEMENTS, ALIGNMENTS AND DIMENSIONAL INFORMATION.
- ALIGN WALL TILE JOINTS TO FLOOR TILE JOINT LINES.
- CONFIRM FINAL TILE JOINT LAYOUT WITH PROFESSIONAL PRIOR TO INSTALLATION.

DRAWING NOTES

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
2	23 JUNE 2023	ADDENDUM 28			
1	19 MAY 2023	ISSUED FOR BID			

RECORD REVISIONS					
NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION

KEYNOTES

CMU-02	042000	CONCRETE MASONRY UNIT, 8" X 24" X 8" GROUND FACE
PLAM-05	064000	PLASTIC LAMINATE, DARK GRAY
PT-01	099100	PAINT FINISH, WHITE
RB-02	096500	RUBBER BASE - 2.5" - GRAY
REQ-03	113000	MICROWAVE
SPP-02	054000	SOLID SURFACE - DARK GRAY
WF-01	097200	CORK

TACTICAL TRAINING DESIGN

Tactical Design North, Inc.
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LANDSCAPE

Lee and Associates, Inc.
6381 Street NW, Washington, DC 20001

LIGHTING

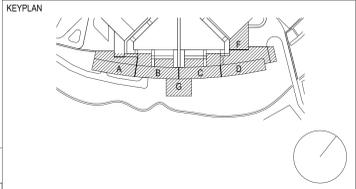
MCLA
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FOOD SERVICE

Hopkins Foodservice Specialists, Inc.
7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

Aqua Design International
7536 N. La Cholla Blvd Tucson, AZ 85741



SIGNATURE _____ DATE _____

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No. **C-0211-0005 PHASE 5**

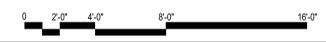
Pennsylvania State Police Academy
Core Buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

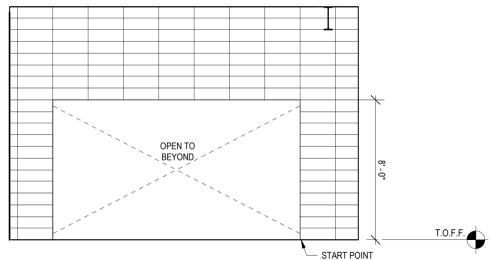
VERIFY SCALE

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IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

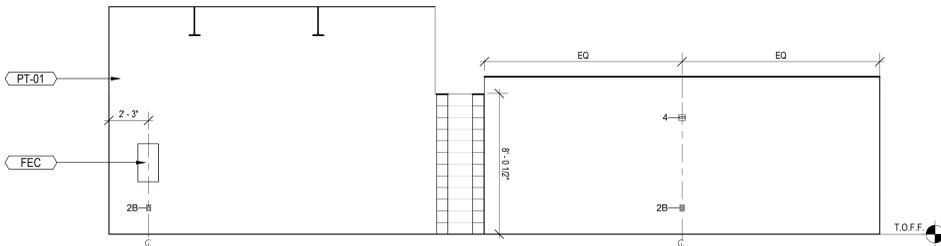
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SHEET No. MAQ-A-650			
DRAWN BY	CHECKED BY	DATE	SCALE
KO	TNB	SEPT 2022	AS NOTED

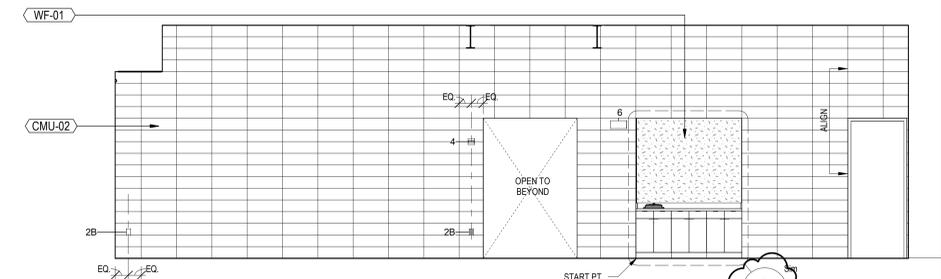




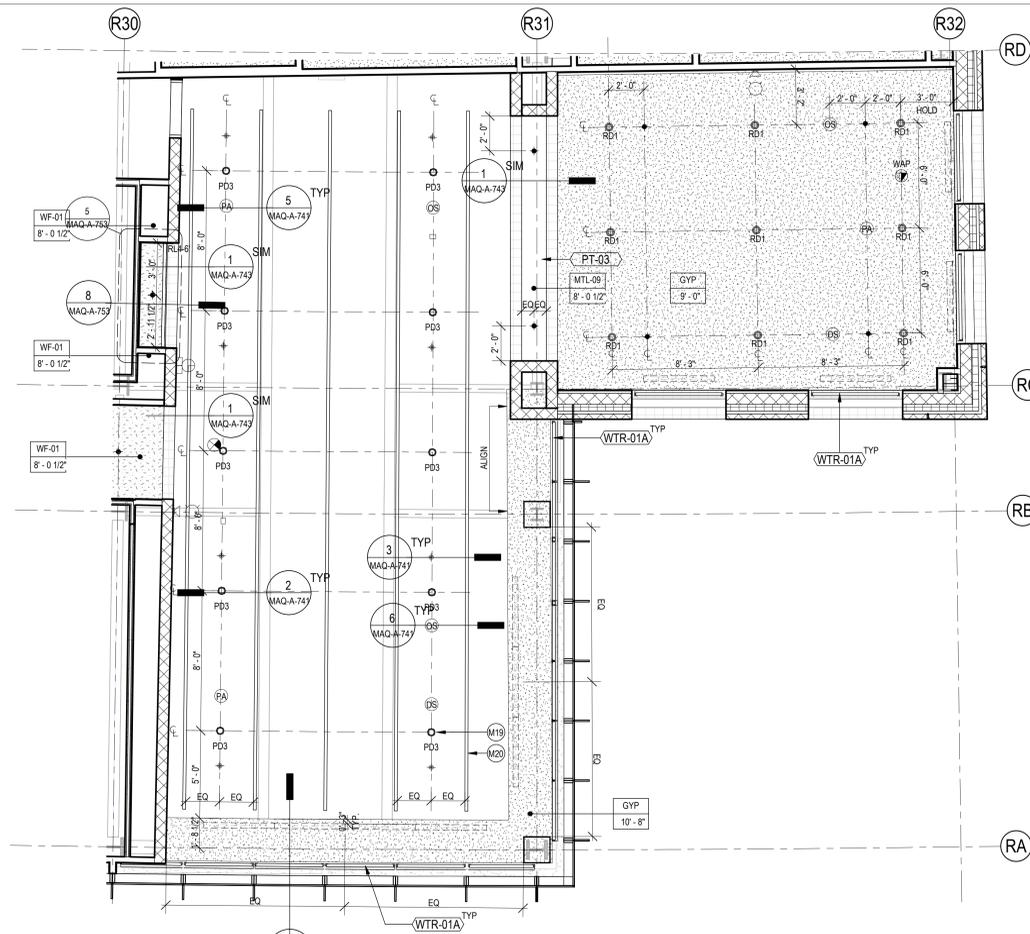
3 CAFETERIA STAFF DINING AREA - EAST
SCALE: 1/4" = 1'-0"



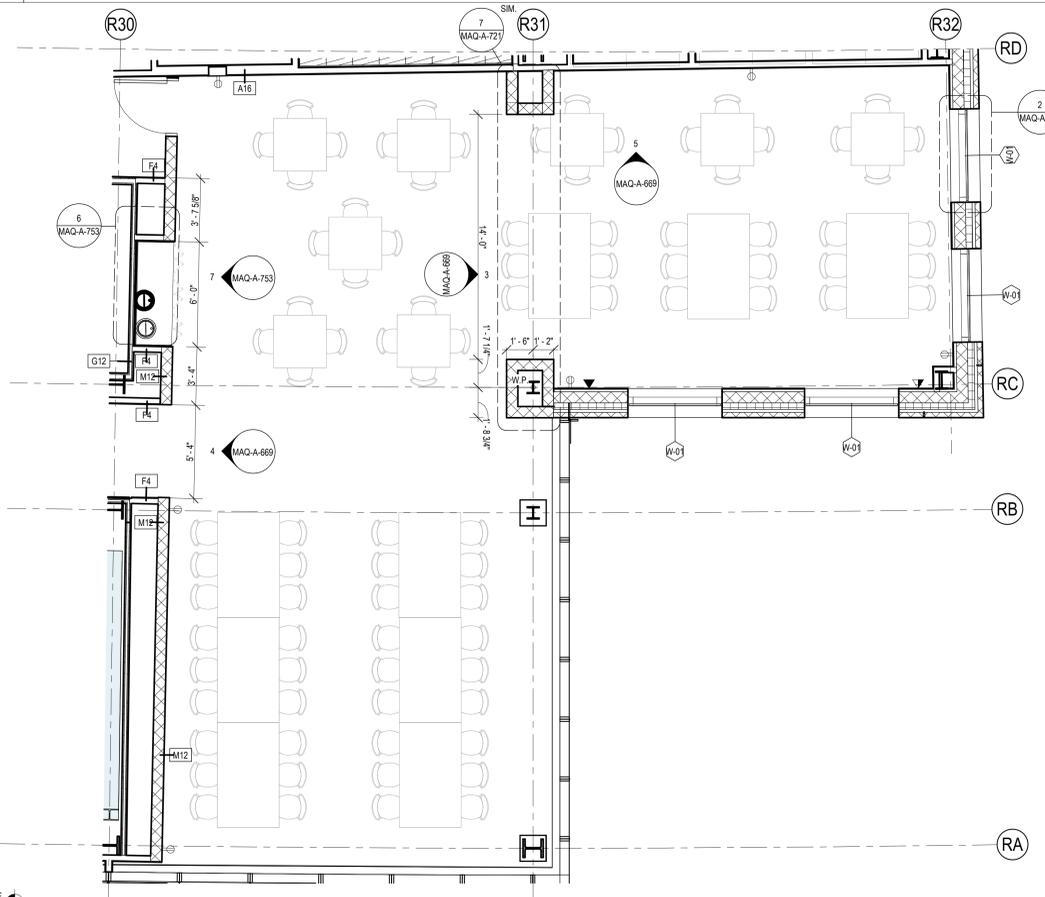
5 CAFETERIA STAFF DINING AREA - NORTH
SCALE: 1/4" = 1'-0"



4 CAFETERIA STAFF DINING AREA - WEST
SCALE: 1/4" = 1'-0"



2 CAFETERIA STAFF DINING HALL RCP
SCALE: 1/4" = 1'-0"



1 CAFETERIA STAFF DINING HALL
SCALE: 1/4" = 1'-0"

KEYNOTES	LEGEND
CMU-02 040300 CONCRETE MASONRY UNIT, 8" X 24" X 8" GROUND FACE	FIRE RATINGS 1/2 HOUR FIRE RATING 1 HOUR FIRE RATING 2 HOUR FIRE RATING 3 HOUR FIRE RATING
FEC 104400 RECESSED FIRE EXTINGUISHER CABINET	DRAWING NOTE XXX
PT-01 099100 PAINT FINISH, WHITE	1 SWITCH 2 ELECTRICAL OUTLET 3 DATA OUTLET 4 FIRE ALARM STROBE 5 THERMOSTAT 6 WALL CLOCK 7 PULL STATION 8 SECURITY CAMERA 9 CARD READER 10 ADA PUSH BOTTON 11 FLOOR BOX 12 WAP
PT-03 099100 PAINT FINISH, DARK GREY	1A SINGLE 1B DOUBLE 1C QUAD 1D CONTROL PANEL
WF-01 097200 CORK	2A SINGLE 2B DUPLEX 2C 3 PORT 3A 3A 3B 3B 3C 3C
WTR-01A 122100 MECHANICAL WINDOW SHADE, LIGHT GRAY	4 5 6 7 8 9 10 11A 11B 11C 11D

RCP LEGEND	
+	CONCEAL PENDANT SPRINKLER
+	PENDANT SPRINKLER
+	UPRIGHT SPRINKLER
+	SIDE WALL SPRINKLER
—	LINEAR DIFFUSER
—	DIFFUSER
—	EXHAUST
—	ACCESS PANEL
XX1	LIGHT FIXTURE
XX1	LIGHT FIXTURE
P	PROJECTOR
—	PROJECTOR SCREEN
S	EXIT SIGN
S	SPEAKER
PA	PAGING SPEAKER
M	MICROPHONE
S	SMOKE DETECTOR
KS	FIRE ALARM SPEAKER/STROBE
OS	FIRE ALARM STROBE
OS	OCCUPANCY SENSOR
VS	VACANCY
DS	DAYLIGHT SENSOR
SC	SECURITY CAMERA
WAP	WAP ABOVE CEILING
WAP	WAP BELOW CEILING
W	WOOD BAFFLE
C	WALL CLOCK

GENERAL NOTES	
1.	ALL DIFFUSERS, REGISTERS AND GRILLES ARE BY THE 2 HVAC CONTRACTOR AND ARE SHOWN FOR LOCATION AND COORDINATION ONLY. UNO.
2.	ALL PLUMBING FIXTURES, SPRINKLERS, FNCS, AND STANDPIPES AND RELATED EQUIPMENT ARE BY THE 4 PLUMBING CONTRACTOR AND ARE SHOWN FOR LOCATION AND COORDINATION ONLY. UNO.
3.	ALL RECEPTACLES, LIGHTS SWITCHES, TELE/ DATA RECEPTACLES, TELECOM EQUIPMENT AND AV EQUIPMENT ARE BY THE 4 ELECTRICAL CONTRACTOR AND ARE SHOWN FOR LOCATION AND COORDINATION ONLY. UNO.
4.	REFERENCE GEN-G-103 FOR STANDARD MOUNTING HEIGHTS AND DETAILS.
5.	REFERENCE ALSO POWER COMMUNICATIONS AND FINISH PLANS AND GEN-G-103 FOR STANDARD DEVICE MOUNTING ARRANGEMENTS, ALIGNMENTS AND DIMENSIONAL INFORMATION.
6.	ALIGN WALL TILE JOINTS TO FLOOR TILE JOINT LINES.
7.	CONFIRM FINAL TILE JOINT LAYOUT WITH PROFESSIONAL PRIOR TO INSTALLATION.

DRAWING NOTES	
M19	BOTTOM OF LIGHTS AT 8'-0" AFF
M20	BOTTOM OF BAFFLES AT 8'-0" AFF

VERIFY SCALE	
BAR IS ONE (1) INCH LONG	ON ORIGINAL DRAWING: 1
IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY	

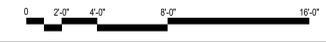
DRAWING NOTES	
CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.	

TACTICAL TRAINING DESIGN	
Tactical Design North, Inc. 231 E. Buffalo St #502, Milwaukee, WI 53202	
LOCAL ARCHITECT	
Jacobs Wyper Architects 1232 Chancery St, Philadelphia, PA 19107	
STRUCTURAL ENGINEER	
Skidmore, Owings & Merrill LLP 250 Greenwich St, New York, NY 10007	
ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER	
A & J Consulting Engineering Services, P.C. 164 Brighton Rd, Clifton, NJ 07012	
MECHANICAL AVIT ENGINEER	
Interface Engineering, Inc. 2000 M Street NW, Suite 270, Washington, DC 20036	
ACOUSTICAL ENGINEER	
Cerami 1001 Ave of the Americas, 4th Floor, New York, NY 10018	
CODE CONSULTANT	
CCI 215 W 40th St, 10th Floor, New York, NY 10018	
CIVIL ENGINEER	
Langan 1818 Market St #3300, Philadelphia, PA 19103	
VERTICAL TRANSPORT	
Michael Blades & Associates Ltd. 5409 Rapidan Ct, Lothian, MD 20711	
SIGNAGE CONSULTANT	
Patricia Hord Graphik Design 119 S. St. Asaph St, Alexandria, VA 22314	
LANDSCAPE	
Lee and Associates, Inc. 6381 Street NW, Washington, DC 20001	
LIGHTING	
MCLA 1000 Potomac St NW, Suite 121, Washington, DC 20007	
FOOD SERVICE	
Hopkins Foodservice Specialists, Inc. 7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818	
POOL DESIGN	
Aqua Design International 7536 N. La Cholla Blvd Tucson, AZ 85741	

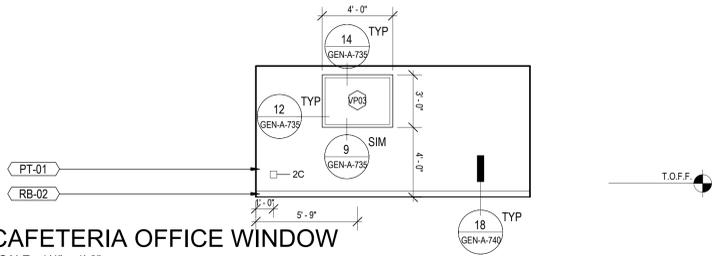
KEYPLAN	
[Keyplan diagram showing the location of this sheet within the overall project layout]	

RECORD REVISIONS					
NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
2	23 JUNE 2023	ADDENDUM 28			
1	19 MAY 2023	ISSUED FOR BID			

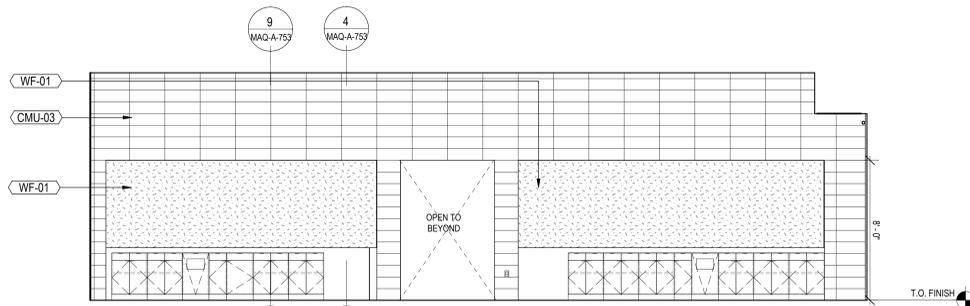
SIGNATURE		DATE	
[Signature]			
ARCHITECT			
SOM Skidmore, Owings & Merrill LLP 250 Greenwich St, New York, 10007			
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES HARRISBURG, PENNSYLVANIA			
D.G.S. PROJECT No.			
C-0211-0005 PHASE 5			
Pennsylvania State Police Academy Core Buildings, BESO & Sitework PENNSYLVANIA STATE POLICE HERSHEY, DAUPHIN COUNTY, PA			
SHEET No.			
MAQ-A-669			
DRAWN BY	CHECKED BY	DATE	SCALE
SS	TNB	SEPT 2022	AS NOTED



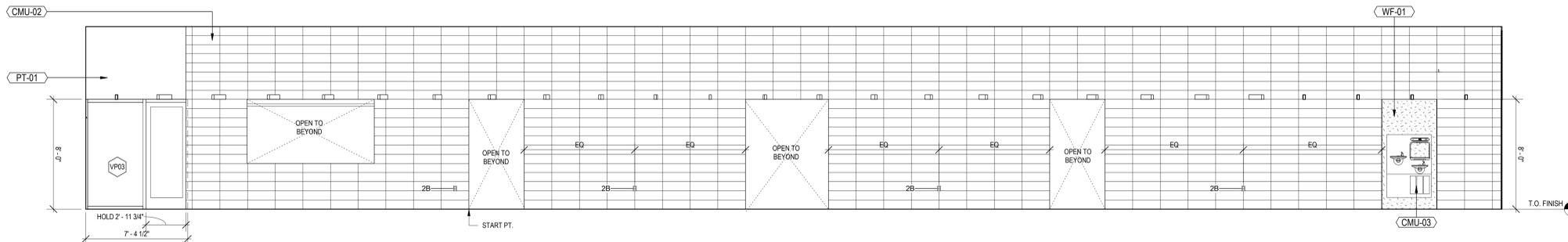
10 CAFETERIA OFFICE WINDOW
SCALE: 1/4" = 1'-0"



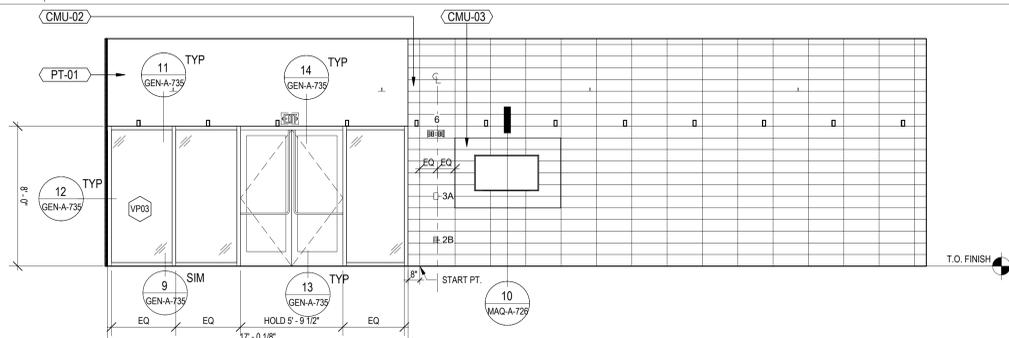
9 CAFETERIA PRIMARY DINING - EAST
SCALE: 1/4" = 1'-0"



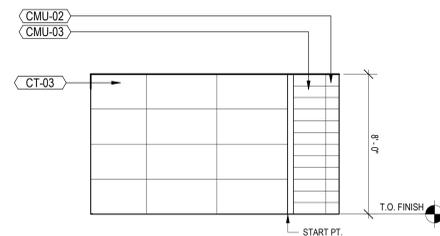
8 CAFETERIA PRIMARY DINING - NORTH B
SCALE: 1/4" = 1'-0"



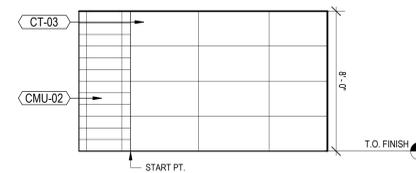
7 CAFETERIA PRIMARY DINING - NORTH A
SCALE: 1/4" = 1'-0"



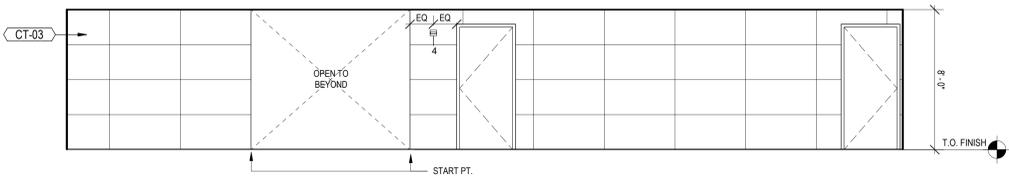
4 CAFETERIA SERVERY - EAST
SCALE: 1/4" = 1'-0"



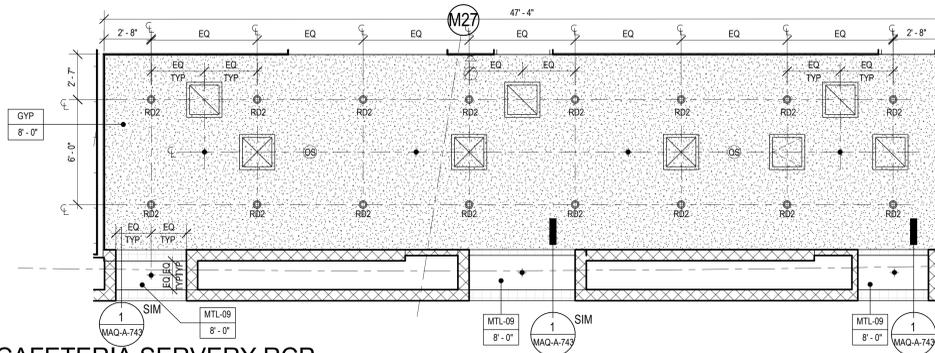
3 CAFETERIA SERVERY - WEST
SCALE: 1/4" = 1'-0"



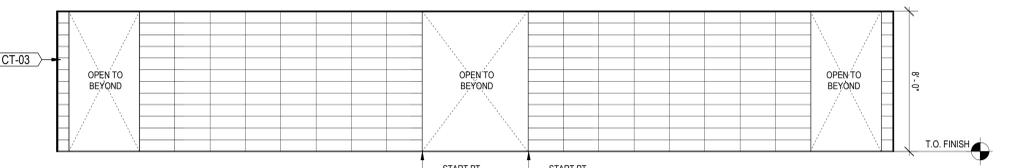
6 CAFETERIA SERVERY - NORTH
SCALE: 1/4" = 1'-0"



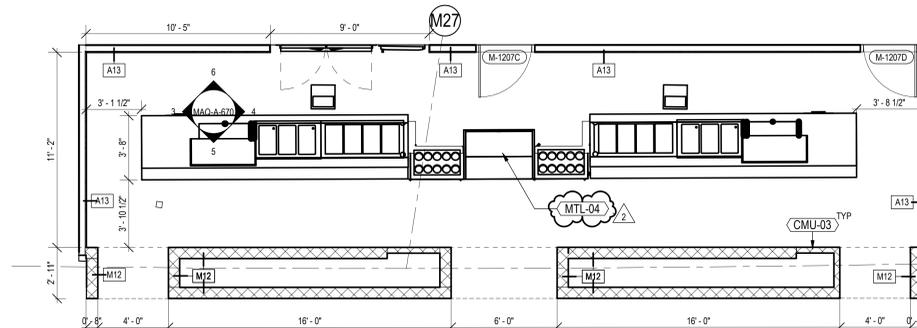
2 CAFETERIA SERVERY RCP
SCALE: 1/4" = 1'-0"



5 CAFETERIA SERVERY - SOUTH
SCALE: 1/4" = 1'-0"



1 CAFETERIA SERVERY PLAN
SCALE: 1/4" = 1'-0"



KEYNOTES	
CMU-02	040300 CONCRETE MASONRY UNIT, 8" X 24" X 8" GROUND FACE
CMU-03	042000 CONCRETE MASONRY UNIT, 8" X 24" X 4" GROUND FACE
CT-03	093000 LARGE FORMAT CERAMIC TILE
MTL-04	057000 STAINLESS STEEL
PT-01	099100 PAINT FINISH, WHITE
RB-02	096000 RUBBER BASE, 2.5" - GRAY
WF-01	097200 CORK

LEGEND	
FIRE RATINGS	
---	1/2 HOUR FIRE RATING
---	1 HOUR FIRE RATING
---	2 HOUR FIRE RATING
---	3 HOUR FIRE RATING
DRAWING NOTE	
1	SWITCH
2	ELECTRICAL OUTLET
3	DATA OUTLET
4	FIRE ALARM STROBE
5	THERMOSTAT
6	WALL CLOCK
7	PULL STATION
8	SECURITY CAMERA
9	CARD READER
10	ADA PUSH BUTTON
11	FLOOR BOX
12	WAP

RCP LEGEND	
+	CONCEAL PENDANT SPRINKLER
+	PENDANT SPRINKLER
+	UPRIGHT SPRINKLER
+	SIDE WALL SPRINKLER
---	LINEAR DIFFUSER
---	DIFFUSER
---	EXHAUST
---	ACCESS PANEL
---	LIGHT FIXTURE
---	LIGHT FIXTURE
---	PROJECTOR
---	PROJECTOR SCREEN
---	EXIT SIGN
---	SPEAKER
---	PAGING SPEAKER
---	MICROPHONE
---	SMOKE DETECTOR
---	FIRE ALARM SPEAKER/STROBE
---	FIRE ALARM STROBE
---	OCCUPANCY SENSOR
---	VACANCY
---	DAYLIGHT SENSOR
---	SECURITY CAMERA
---	WAP ABOVE CEILING
---	WAP BELOW CEILING
---	WOOD BAFFLE
---	WALL CLOCK

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POOL DESIGN

Aqua Design International
7536 N. La Cholla Blvd Tucson, AZ 85741

KEYPLAN

SIGNATURE _____ DATE _____

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No. C-0211-0005 PHASE 5

Pennsylvania State Police Academy
Core Buildings, BES0 & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

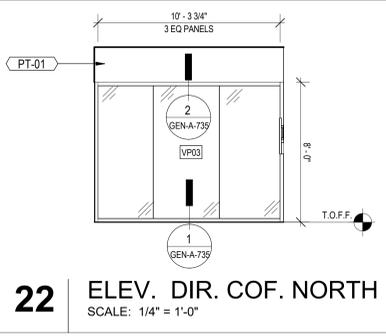
VERIFY SCALE

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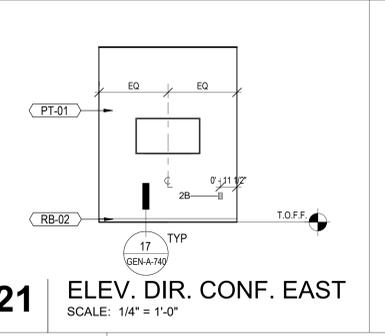
IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

SHEET No. **MAQ-A-670**

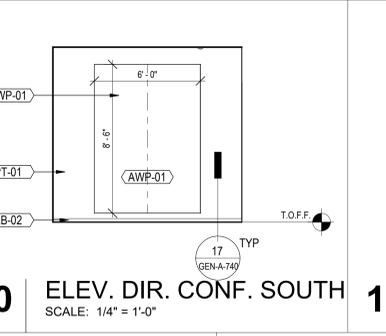
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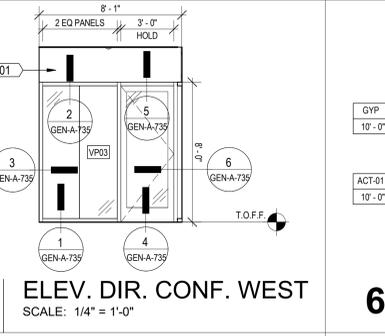
22 ELEV. DIR. COF. NORTH
SCALE: 1/4" = 1'-0"



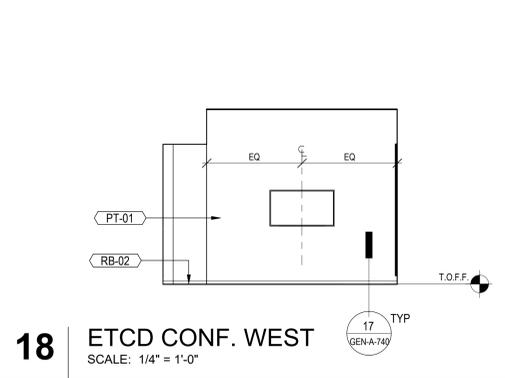
21 ELEV. DIR. CONF. EAST
SCALE: 1/4" = 1'-0"



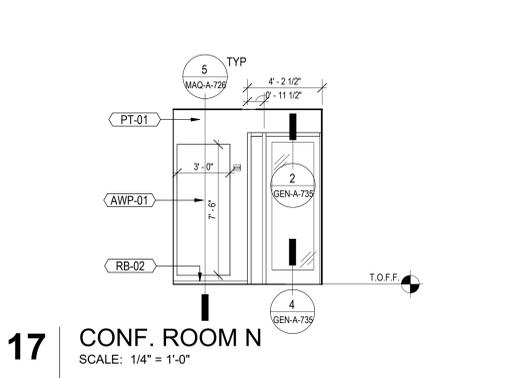
20 ELEV. DIR. CONF. SOUTH
SCALE: 1/4" = 1'-0"



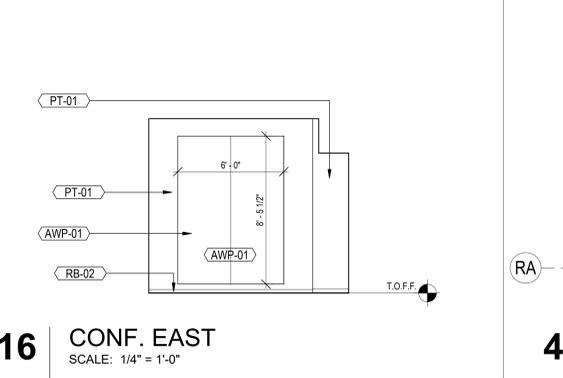
19 ELEV. DIR. CONF. WEST
SCALE: 1/4" = 1'-0"



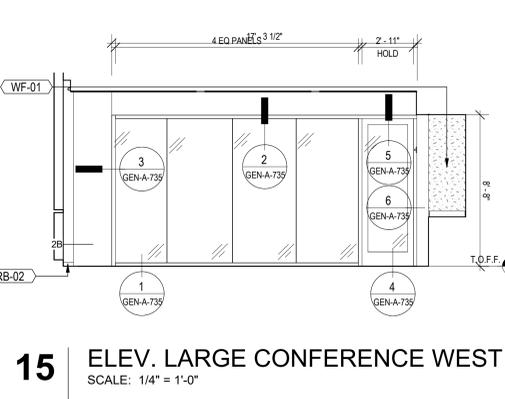
18 ETCD CONF. WEST
SCALE: 1/4" = 1'-0"



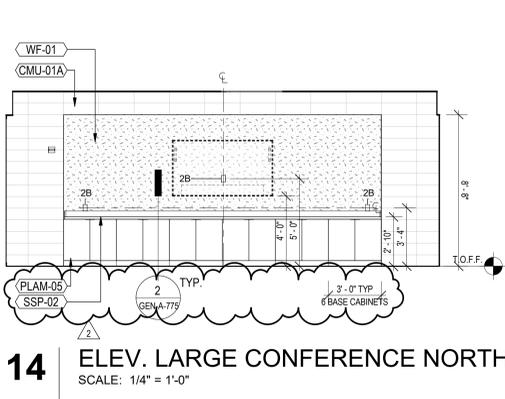
17 CONF. ROOM N
SCALE: 1/4" = 1'-0"



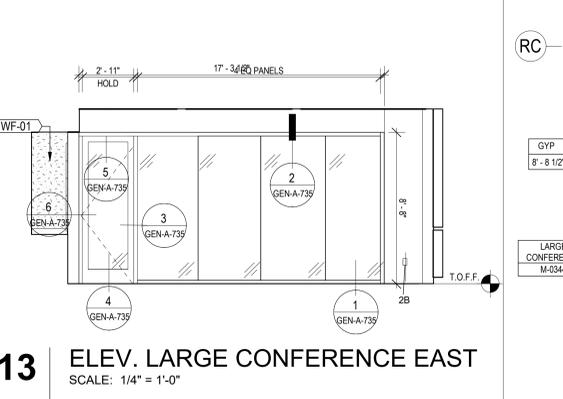
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SCALE: 1/4" = 1'-0"



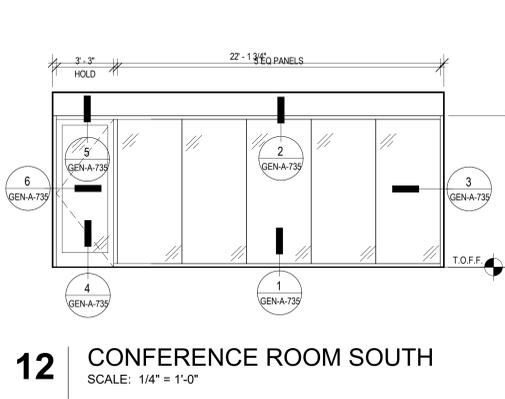
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SCALE: 1/4" = 1'-0"



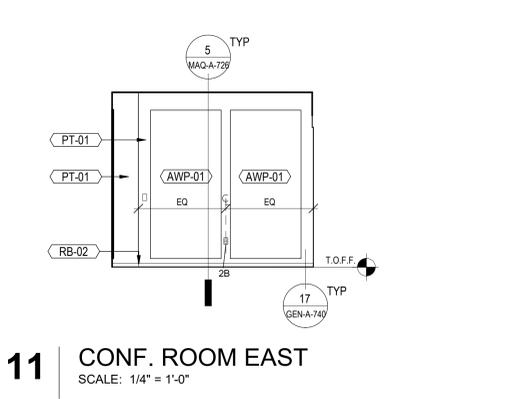
14 ELEV. LARGE CONFERENCE NORTH
SCALE: 1/4" = 1'-0"



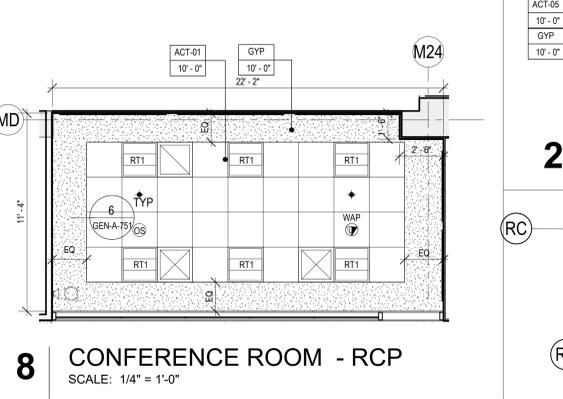
13 ELEV. LARGE CONFERENCE EAST
SCALE: 1/4" = 1'-0"



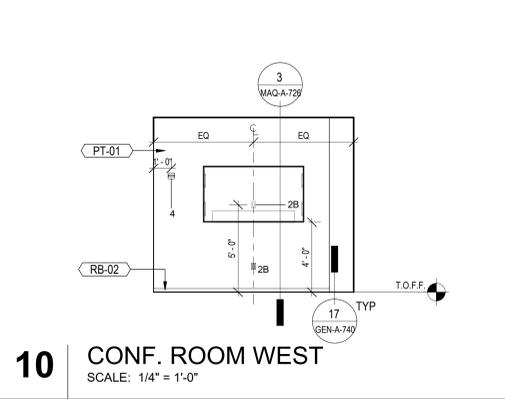
12 CONFERENCE ROOM SOUTH
SCALE: 1/4" = 1'-0"



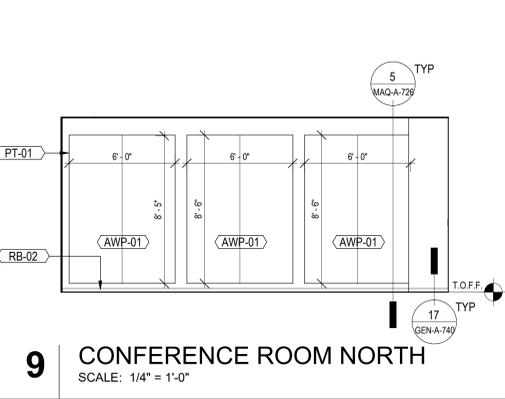
11 CONF. ROOM EAST
SCALE: 1/4" = 1'-0"



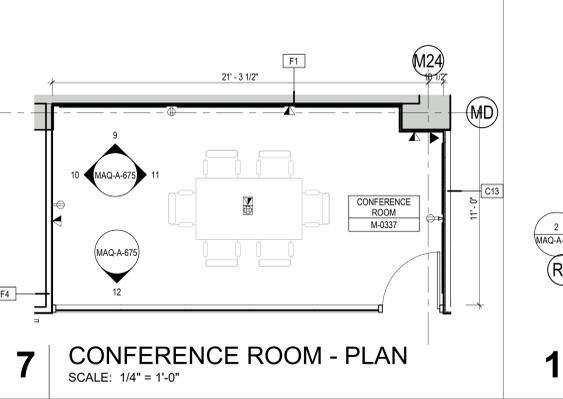
10 CONF. ROOM WEST
SCALE: 1/4" = 1'-0"



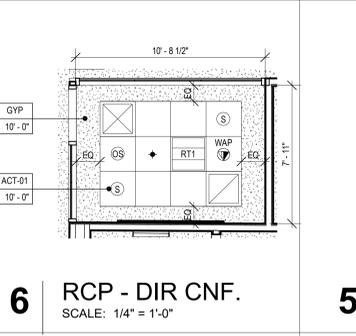
9 CONFERENCE ROOM NORTH
SCALE: 1/4" = 1'-0"



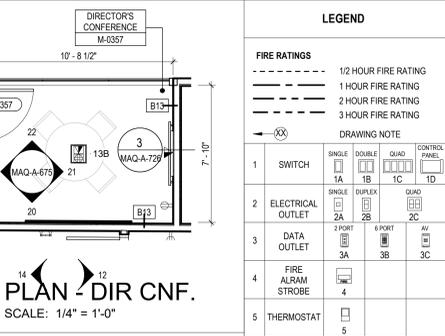
8 CONFERENCE ROOM - RCP
SCALE: 1/4" = 1'-0"



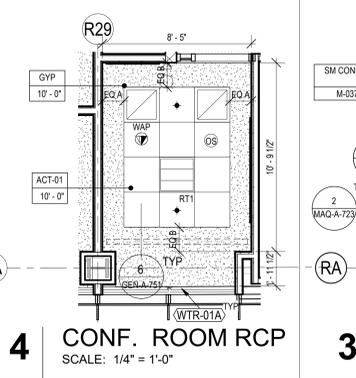
7 CONFERENCE ROOM - PLAN
SCALE: 1/4" = 1'-0"



6 RCP - DIR CNF.
SCALE: 1/4" = 1'-0"



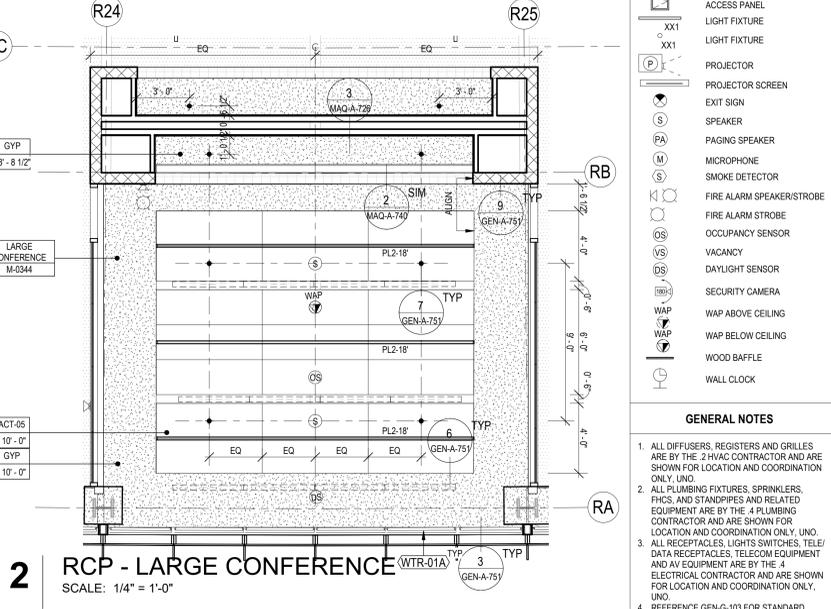
5 PLAN - DIR CNF.
SCALE: 1/4" = 1'-0"



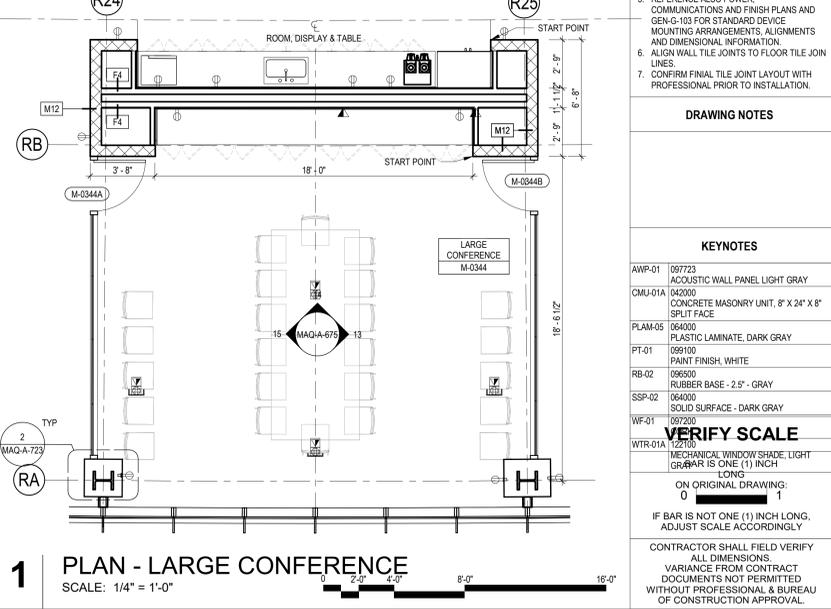
4 CONF. ROOM RCP
SCALE: 1/4" = 1'-0"



3 CONF. ROOM PLAN
SCALE: 1/4" = 1'-0"



2 RCP - LARGE CONFERENCE
SCALE: 1/4" = 1'-0"



1 PLAN - LARGE CONFERENCE
SCALE: 1/4" = 1'-0"

LEGEND

FIRE RATINGS

- 1 1/2 HOUR FIRE RATING
- 1 HOUR FIRE RATING
- 2 HOUR FIRE RATING
- 3 HOUR FIRE RATING

DRAWING NOTE

1 SWITCH

2 ELECTRICAL OUTLET

3 DATA OUTLET

4 FIRE ALARM STROBE

5 THERMOSTAT

6 WALL CLOCK

7 PULL STATION

8 SECURITY CAMERA

9 CARD READER

10 ADA PUSH BUTTON

11 FLOOR BOX

12 WAP

RCP LEGEND

- CONCEAL PENDANT SPRINKLER
- PENDANT SPRINKLER
- UPRIGHT SPRINKLER
- SIDE WALL SPRINKLER
- LINEAR DIFFUSER
- DIFFUSER
- EXHAUST
- ACCESS PANEL
- LIGHT FIXTURE
- PROJECTOR SCREEN
- EXIT SIGN
- SPEAKER
- PAGING SPEAKER
- MICROPHONE
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- ALIGN WALL TILE JOINTS TO FLOOR TILE JOINT LINES.
- CONFIRM FINAL TILE JOINT LAYOUT WITH PROFESSIONAL PRIOR TO INSTALLATION.

DRAWING NOTES

KEYNOTES

- AWP-01 097723 ACOUSTIC WALL PANEL LIGHT GRAY
- CMU-01A 042000 CONCRETE MASONRY UNIT, 8" X 24" X 8" SPLIT FACE
- PLAM-05 064000 PLASTIC LAMINATE, DARK GRAY
- PT-01 099100 PAINT FINISH, WHITE
- RB-02 095500 RUBBER BASE - 2.5" - GRAY
- SSP-02 064000 SOLID SURFACE - DARK GRAY
- WF-01 097200
- WTR-01A 122700 TECHNICAL WINDOW SHADE LIGHT GRAY

VERIFY SCALE

ON ORIGINAL DRAWING: 1

IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY.

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KEYPLAN

RECORD REVISIONS

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
2	23 JUN 2023	ADDENDUM 28			
1	19 MAY 2023	ISSUED FOR BID			

SIGNATURE _____ **DATE** _____

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No.

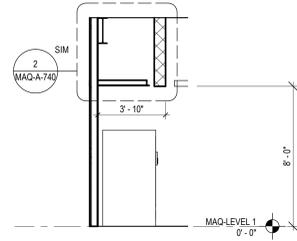
C-0211-0005 PHASE 5

Pennsylvania State Police Academy
Core Buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

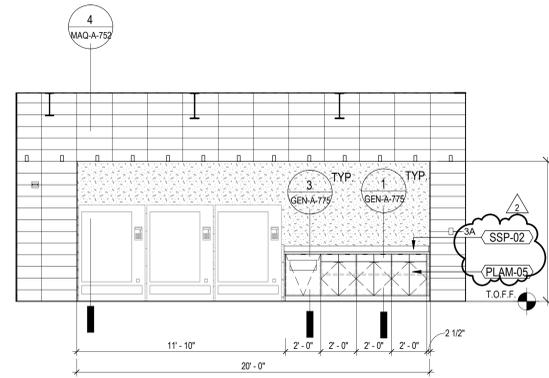
ENLARGED PLANS/RCPs AND ELEVATIONS - CONFERENCE ROOMS

SHEET No. **MAQ-A-675**

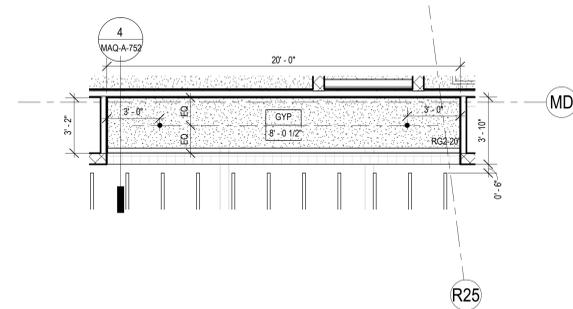
DRAWN BY KO **CHECKED BY** TNB **DATE** SEPT 2022 **SCALE** AS NOTED



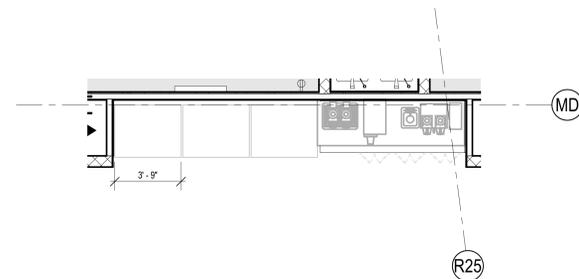
4 INTERIOR SECTION - LEVEL 1 - VENDING
SCALE: 1/4" = 1'-0"



3 INTERIOR ELEVATION - LEVEL 1 - VENDING
SCALE: 1/4" = 1'-0"



2 REFLECTED CEILING PART PLAN - LEVEL 1 - VENDING
SCALE: 1/4" = 1'-0"



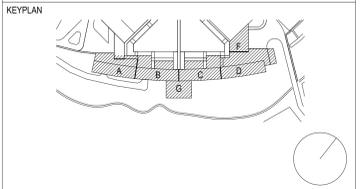
1 FLOOR PART PLAN - LEVEL 1 - VENDING
SCALE: 1/4" = 1'-0"



KEYNOTES

PLAM-05	064000	PLASTIC LAMINATE, DARK GRAY
SSP-02	064000	SOLID SURFACE - DARK GRAY

TACTICAL TRAINING DESIGN	
Tactical Design North, Inc. 231 E. Buffalo St #502, Milwaukee, WI 53202	
LOCAL ARCHITECT	
Jacobs Wyper Architects 1232 Chancellor St, Philadelphia, PA 19107	
STRUCTURAL ENGINEER	
Skidmore, Owings & Merrill LLP 250 Greenwich St, New York, NY 10007	
ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER	
A & J Consulting Engineering Services, P.C. 164 Brighton Rd, Clifton, NJ 07012	
MECHANICAL, AVIT ENGINEER	
Interface Engineering, Inc. 2000 M Street NW, Suite 270, Washington, DC 20036	
ACOUSTICAL ENGINEER	
Cerami 1001 Ave of the Americas, 4th Floor, New York, NY 10018	
CODE CONSULTING	
CCI 215 W 40th St, 10th Floor, New York, NY 10018	
CIVIL ENGINEER	
Langan 1818 Market St #3300, Philadelphia, PA 19103	
VERTICAL TRANSPORT	
Michael Blades & Associates Ltd. 5409 Rapidan Ct, Lothian, MD 20711	
SIGNAGE CONSULTANT	
Patricia Hord Graphik Design 119 S. St. Asaph St, Alexandria, VA 22314	
LANDSCAPE	
Lee and Associates, Inc. 638 I Street NW, Washington, DC 20001	
LIGHTING	
MCLA 1000 Potomac St NW, Suite 121, Washington, DC 20007	
FOOD SERVICE	
Hopkins Foodservice Specialists, Inc. 7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818	
POOL DESIGN	
Aqua Design International 7536 N. La Cholla Blvd Tucson, AZ 85741	



NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
2	23 JUNE 2023	ADDENDUM 28			
1	19 MAY 2023	ISSUED FOR BID			



SIGNATURE _____ DATE _____

ARCHITECT
SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No.
C-0211-0005 PHASE 5
Pennsylvania State Police Academy
Core Buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

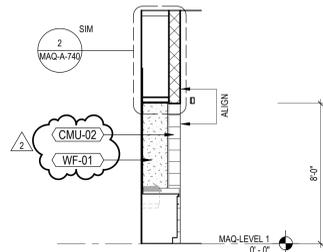
VERIFY SCALE

BAR IS ONE (1) INCH LONG
ON ORIGINAL DRAWING: 1
IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

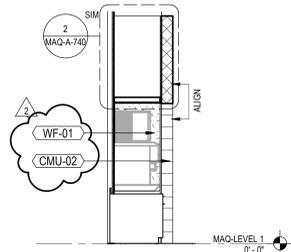
ENLARGED PLANS AND ELEVATIONS
- VENDING

SHEET No. MAQ-A-752			
DRAWN BY ML	CHECKED BY TNB	DATE SEPT 2022	SCALE AS NOTED

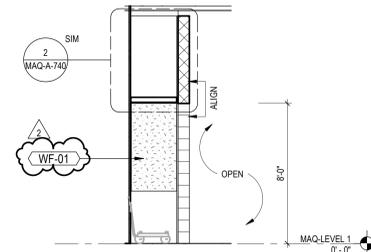
CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.



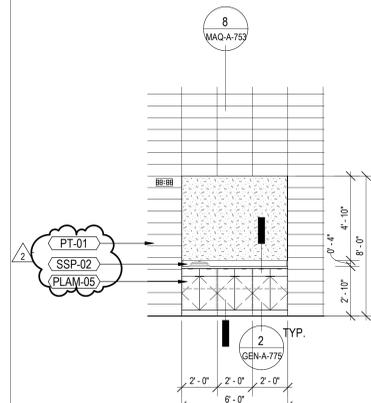
8 INT. SECTION - STAFF SOUP STATION
SCALE: 1/4" = 1'-0"



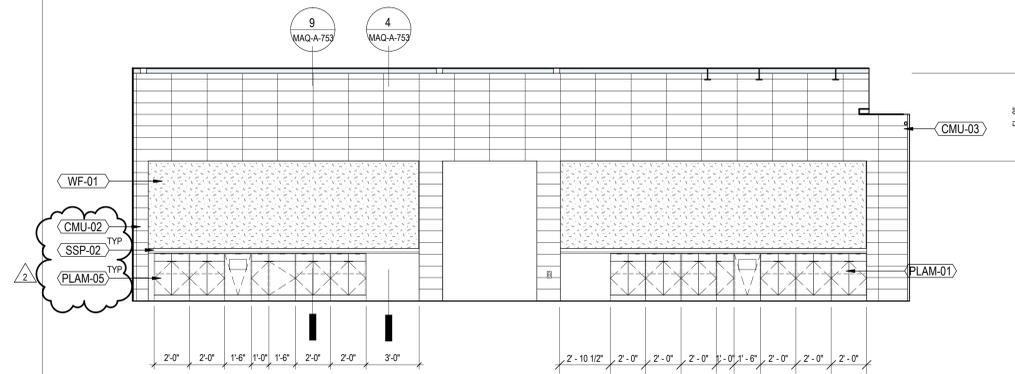
9 INT. SECTION - E BEVERAGE - CAB.
SCALE: 1/4" = 1'-0"



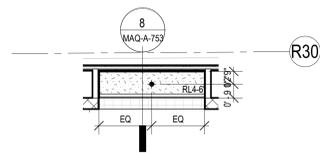
4 INT. SECTION - E BEVERAGE - CART
SCALE: 1/4" = 1'-0"



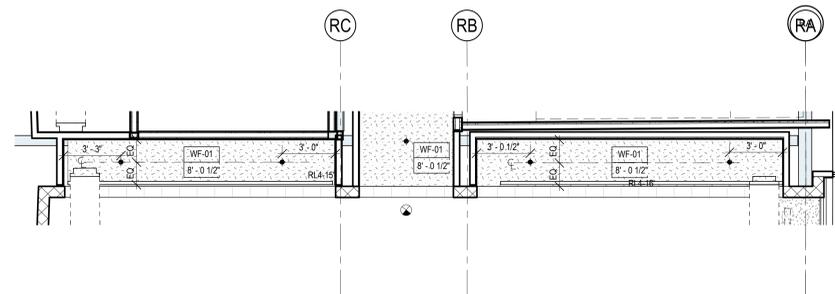
7 INT. ELEV. - STAFF SOUP STATION
SCALE: 1/4" = 1'-0"



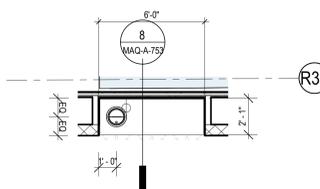
3 INTERIOR ELEVATION - EAST BEVERAGE STATIONS
SCALE: 1/4" = 1'-0"



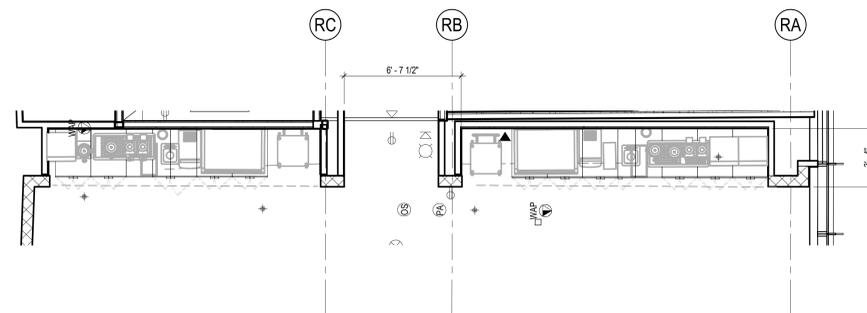
5 RCP - STAFF SOUP STATION
SCALE: 1/4" = 1'-0"



2 REFLECTED CEILING PART PLAN - EAST BEVERAGE STATIONS
SCALE: 1/4" = 1'-0"



6 FL. PART PLAN - STAFF SOUP STATION
SCALE: 1/4" = 1'-0"



1 ENLARGED PLANS - EAST BEVERAGE STATIONS
SCALE: 1/4" = 1'-0"



KEYNOTES

CMU-02	042000	CONCRETE MASONRY UNIT, 8" X 24" X 8" GROUND FACE
CMU-03	042000	CONCRETE MASONRY UNIT, 8" X 24" X 4" GROUND FACE
PLAM-01	064000	PLASTIC LAMINATE, WHITE
PLAM-05	064000	PLASTIC LAMINATE, DARK GRAY
PT-01	099100	PAINT FINISH, WHITE
SSP-02	064000	SOLID SURFACE - DARK GRAY
WF-01	097200	CORK

TACTICAL TRAINING DESIGN

Tactical Design North, Inc.
231 E. Buffalo St #502, Milwaukee, WI 53202

LOCAL ARCHITECT

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Patricia Hord Graphik Design
119 S. St. Asaph St, Alexandria, VA 22314

LANDSCAPE

Lee and Associates, Inc.
6381 Street NW, Washington, DC 20001

LIGHTING

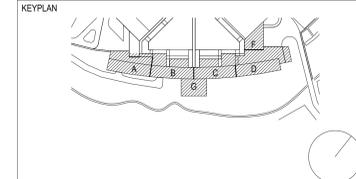
MCLA
1000 Potomac St NW, Suite 121, Washington, DC 20007

FOOD SERVICE

Hopkins Foodservice Specialists, Inc.
7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

Aqua Design International
7536 N. La Cholla Blvd Tucson, AZ 85741



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1	19 MAY 2023	ISSUED FOR BID			



SIGNATURE _____ DATE _____

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No. **C-0211-0005 PHASE 5**

Pennsylvania State Police Academy
Core Buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE

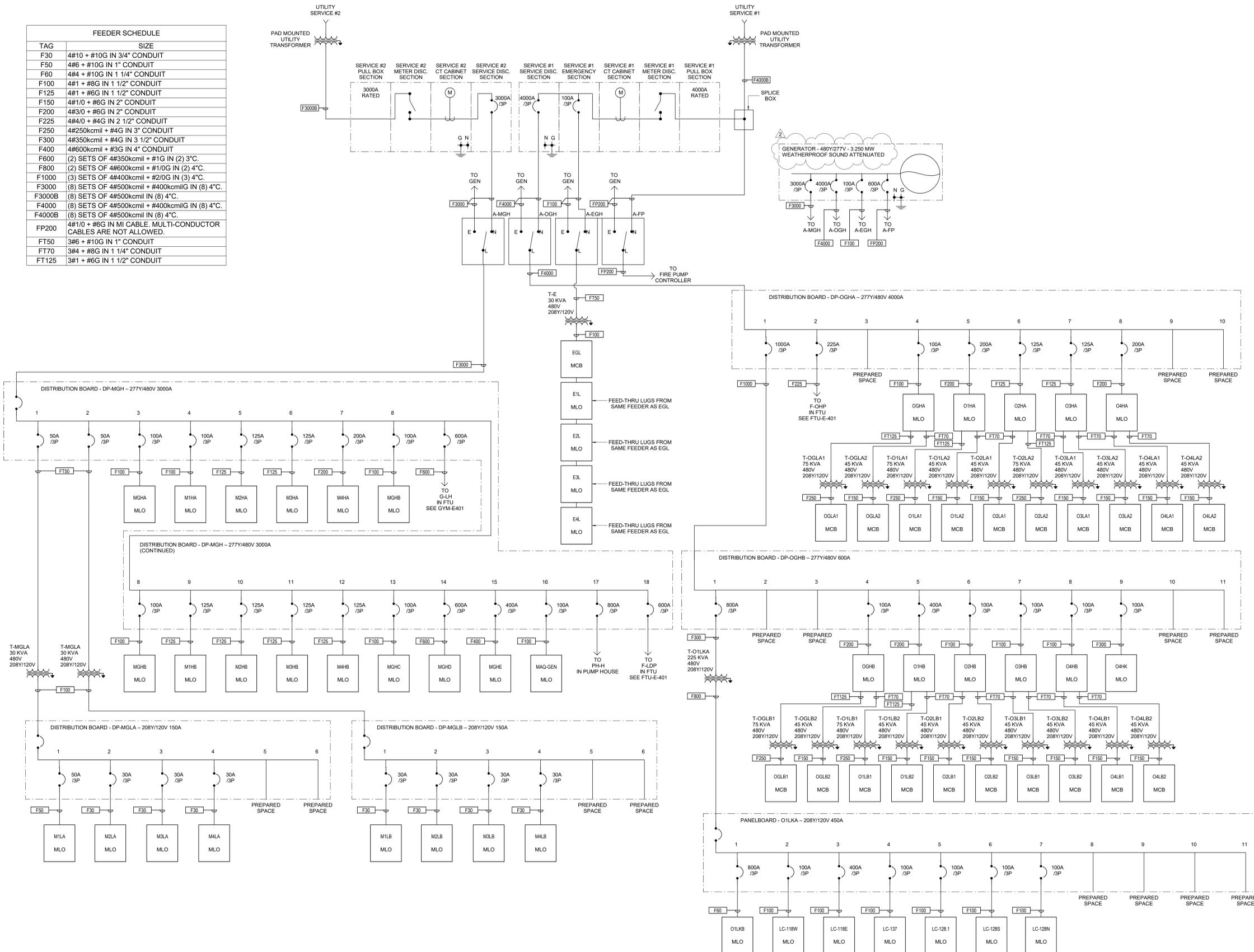
BAR IS ONE (1) INCH LONG
ON ORIGINAL DRAWING: 0 1
IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.

SHEET No. **MAQ-A-753**

DRAWN BY	CHECKED BY	DATE	SCALE
ML	TNB	SEPT 2022	AS NOTED

FEEDER SCHEDULE	
TAG	SIZE
F30	4#10 + #10G IN 3/4" CONDUIT
F50	4#6 + #10G IN 1" CONDUIT
F60	4#4 + #10G IN 1 1/4" CONDUIT
F100	4#1 + #8G IN 1 1/2" CONDUIT
F125	4#1 + #6G IN 1 1/2" CONDUIT
F150	4#1/0 + #6G IN 2" CONDUIT
F200	4#3/0 + #6G IN 2" CONDUIT
F225	4#4/0 + #4G IN 2 1/2" CONDUIT
F250	4#250kcmil + #4G IN 3" CONDUIT
F300	4#350kcmil + #4G IN 3 1/2" CONDUIT
F400	4#600kcmil + #3G IN 4" CONDUIT
F600	(2) SETS OF 4#350kcmil + #1G IN (2) 3"C.
F800	(2) SETS OF 4#600kcmil + #1/0G IN (2) 4"C.
F1000	(3) SETS OF 4#400kcmil + #2/0G IN (3) 4"C.
F3000	(8) SETS OF 4#500kcmil + #400kcmilG IN (8) 4"C.
F3000B	(8) SETS OF 4#500kcmil IN (8) 4"C.
F4000	(8) SETS OF 4#500kcmil + #400kcmilG IN (8) 4"C.
F4000B	(8) SETS OF 4#500kcmil IN (8) 4"C.
FP200	4#1/0 + #6G IN MI CABLE. MULTI-CONDUCTOR CABLES ARE NOT ALLOWED.
FT50	3#6 + #10G IN 1" CONDUIT
FT70	3#4 + #8G IN 1 1/4" CONDUIT
FT125	3#1 + #6G IN 1 1/2" CONDUIT



1 SINGLE LINE

SCALE: 1/8" = 1'-0"
 0 8'-0" 16'-0" 32'-0" 64'-0"

TACTICAL TRAINING DESIGN

Tactical Design North, Inc.
 231 E. Buffalo St #502, Milwaukee, WI 53202

LOCAL ARCHITECT

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 1232 Chancellor St, Philadelphia, PA 19107

STRUCTURAL ENGINEER

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FOOD SERVICE

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 7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

Aqua Design International
 7536 N. La Cholla Blvd Tucson, AZ 85741

KEY PLAN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
2	23 JUN 2023	ADDENDUM 28			
1	19 MAY 2023	ISSUED FOR BID			

RECORD REVISIONS

ARCHITECT

SOM
 Skidmore, Owings & Merrill LLP
 250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF GENERAL SERVICES
 HARRISBURG, PENNSYLVANIA

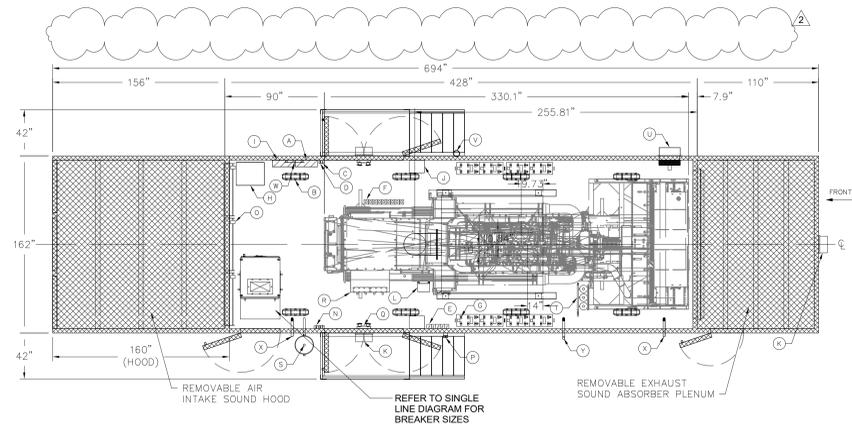
D.G.S. PROJECT No. C-0211-0005 PHASE 5

PA State Police Academy and BESO - Modernization
 PENNSYLVANIA STATE POLICE
 HERSHEY, DAUPHIN COUNTY, PA

ELECTRICAL SINGLE LINE

SHEET No. **MAQ-E-501**

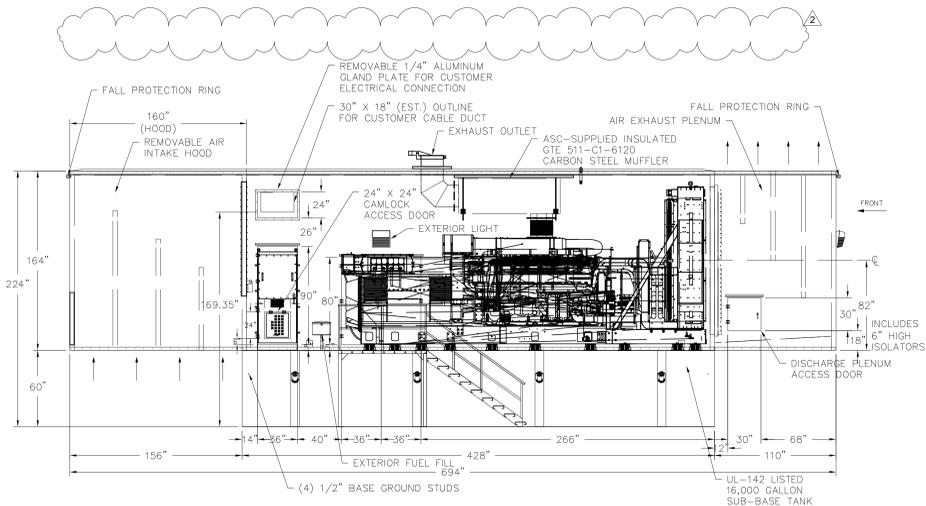
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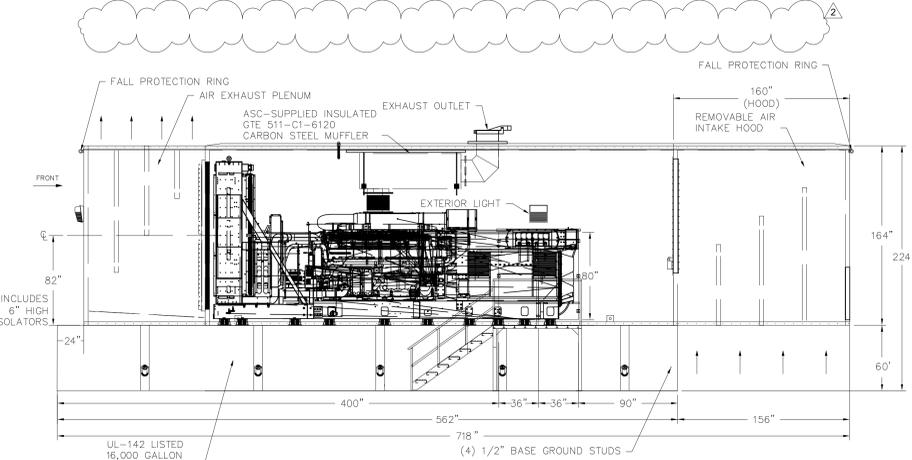
1 GENERATOR TOP VIEW
SCALE: N.T.S.

KEYED NOTES:

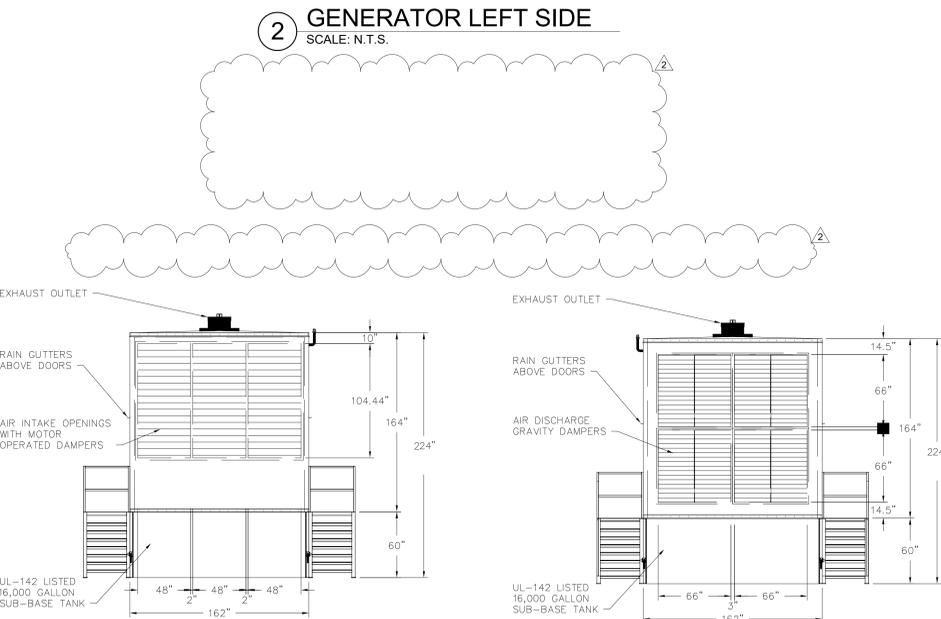
- A - (1) PANELBOARD 100A 120V/208Y 3P 4W NEMA 3R
- B - (8) 2FT LED FIXTURES (LITHONIA DMV2 40W)
- C - (2) LIGHT SWITCHES
- D - (2) INTERIOR GF RECEPTACLES
- E - (5) CONNECTIONS FOR JACKET WATER HEATER AND ALTERNATOR HEATER
- F - (9) CONNECTIONS FOR LOW/HIGH/LEAK ALARMS
- G - (4) CONNECTIONS FOR CUSTOMER LEAD ACID BATTERIES
- H - (1) 38KVA TRANSFORMER 3 PHASE (SQUARE D EX30T3H) (CEILING MOUNTED)
- I - (1) PANELBOARD 100A 277/480Y 3P 4W NEMA 3R
- J - (2) 5KW HEATERS WITH THERMOSTAT AND SHUT-OFF RELAY
- K - (3) EXTERIOR 20W COMPACT FLUORESCENT LIGHTS
- L - (1) CONNECTION FOR BATTERY SWITCH
- M - (1) INTERIOR SWITCH TO CONTROL EXTERIOR LIGHTS
- N - (6) CONNECTIONS FOR MOTOR OPERATED DAMPERS
- O - (1) EMERGENCY STOP SWITCH (EXTERIOR)
- P - (2) EMERGENCY DUEL-HEAD LIGHTS
- Q - (1) GENERATOR-MOUNTED TERMINATION BOX
- R - (1) 7 GALLON SPILL CONTAINER
- S - (1) FUEL/WATER SEPARATOR (ASC-INSTALLED)
- T - (1) 18" EXHAUST FAN (1,900 CFM) WITH THERMOSTAT AND EXTERIOR HOOD
- U - (1) CONNECTION FOR CUSTOMER CABLE CONNECTION
- V - (1) GREEN/YELLOW/RED BEACON LIGHT WIRE TO GENERATOR CONTROL PANEL
- W - (1) GROUND BAR
- X - (2) 2" PORTS FOR REMOTE FUEL POLISHER
- Y - (1) TANK NORMAL VENT



2 GENERATOR LEFT SIDE
SCALE: N.T.S.

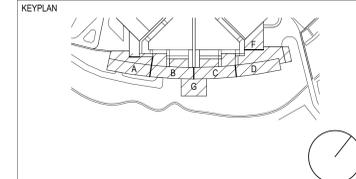


3 GENERATOR RIGHT SIDE
SCALE: N.T.S.



4 GENERATOR SIDE VIEWS
SCALE: N.T.S.

- TACTICAL TRAINING DESIGN
- Tactical Design North, Inc.**
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- STRUCTURAL ENGINEER
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- Michael Blades & Associates Ltd.**
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- SIGNAGE CONSULTANT
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2	23 JUN 2023	ADDENDUM 28			
1	19 MAY 2023	ISSUED FOR BID			

RECORD REVISIONS

JITENDRA K AGARWAL
REGISTERED PROFESSIONAL ENGINEER
PENNSYLVANIA
2023-06-16

ARCHITECT

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Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT NO: C-0211-0005 PHASE 5
Pennsylvania State Police Academy Core buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE

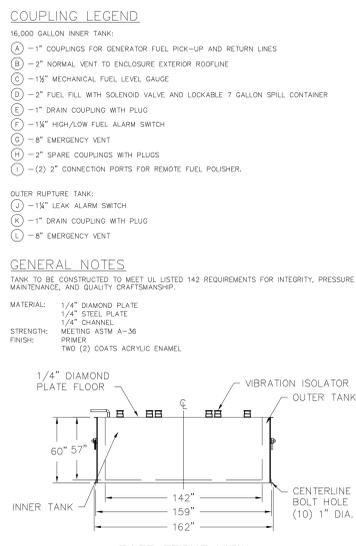
BAR IS ONE (1) INCH LONG
ON ORIGINAL DRAWING: 1

IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

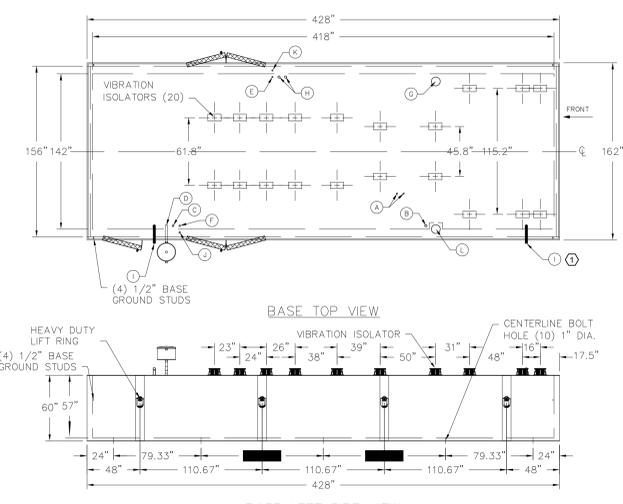
CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.

SHEET No: **MAQ-E-505**

DRAWN BY: Author
CHECKED BY: Checker
DATE: _____
SCALE: AS NOTED



GENERATOR DESCRIPTION	
DESCRIPTION:	ONE (1) WEATHER-PROTECTIVE, SOUND-ATTENUATED, WALK-IN, DROP-OVER TYPE ENCLOSURE WITH BASE AND BUILT-IN UL-142 LISTED 16,000 GALLON (221 GPH X 72 HOURS) SUB-BASE TANK WITH RUPTURE TANK, FOR A 3,250kW C32500RE (WITH 47C RADATOR) CUMMINS DIESEL GENERATOR SET WITH FREE STANDING CIRCUIT BREAKER AS PER SINGLE LINE DIAGRAM. ENCLOSURE TO REDUCE GENERATOR NOISE IN FREE FIELD TO 75 db AT 23 FEET FROM GENERATOR.
AIR INTAKE:	EXTERIOR FIXED LOUVERS WITH INTERIOR SOUND ABSORBING VERTICAL BAFFLE SYSTEM AND BIRD SCREEN FOR 120,450 CFM COOLING AND COMBUSTION AIR WITH A VELOCITY OF 950 FEET PER MINUTE. INTERIOR GALVANIZED MOTOR OPERATED DAMPERS WITH BELIMO ACTUATORS (SPRING OPEN/MOTOR CLOSE).
AIR DISCHARGE:	EXTERIOR SOUND-ABSORBING VERTICAL PLENUM WITH SOUND-ABSORBING BAFFLE SYSTEM, BIRD SCREEN AND COUNTER-BALANCED GRAVITY DAMPERS AT RADIATOR DISCHARGE
MISCELLANEOUS:	MUFFLER BRACKETS, MUFFLER STRAP, RAIN COLLAR(S), AND RAIN SHIELD(S) FOR INTERNAL INSTALLATION OF ASC-SUPPLIED GTE 511-C1-6120 (DUEL INLET) SUPER-CRITICAL GRADE CARBON STEEL RECTANGULAR SLIM LINE MUFFLER, RADIATOR CAP ACCESS, ELECTRIC STUB-UP AREA(S) IN BASE TANK, THERMAL INSULATION FOR INTERNAL MUFFLER AND INTERNAL EXHAUST PIPING, REMOVABLE AIR DISCHARGE HOOD FOR RADIATOR ACCESS, SUPPLY AND INSTALLATION OF 2" BRASS N.O. SOLENOID VALVE, INSTALLATION FOR CUSTOMER-SUPPLIED FUEL/WATER SEPARATOR, STAINLESS STEEL BRAIDED FUEL LINES ENCLOSURE-BASE STRUCTURE EVALUATED AND CERTIFIED BY VA PE. 2" PORTS AT OPPOSITE ENDS OF TANK FOR CONNECTION OF REMOTE FUEL POLISHER. STAINLESS STEEL GOOSENECK EXHAUST OUTLET WITH (2) 3" EMISSION TEST PORTS, EXTENDED, LIMITED 2 YEAR WARRANTY.
ENCLOSURE DIMENSIONS:	428"L x 162"W x 164"H.
OVERALL DIMENSIONS:	694"L x 162"W x 224"H.
EXTERIOR:	FOURTEEN (14) GAUGE 0.063 WHITE OR BRONZE BAKED ENAMEL ALUMINUM, OR FOURTEEN (14) GAUGE 0.063 MIL-FINISHED ALUMINUM.
INTERIOR:	FOUR INCH BY TWO INCH (4" x 2") THICK STEEL TUBE FRAME, PRIMED AND PAINTED, FILLED 100% WITH FOUR INCH (4") SOUND-ABSORBING INSULATION (FLAME SPREAD OF 10, FUEL CONTRIBUTED 0 AND SMOKE DEVELOPED 0), COVERED WITH EIGHTEEN (18) GAUGE 0.040 MIL-FINISHED PERFORATED ALUMINUM.
ACCESS:	TWO (2) SOLID DOUBLE DOORS 72" WIDE x 80" HIGH WITH LOCKING HANDLES KEYED ALIKE, THREE-POINT LATCHES, LEVER-TYPE PANIC RELEASE FROM INSIDE ENCLOSURE, STAINLESS STEEL BUTT HINGES, STAINLESS STEEL DOOR HOLDERS, AND RAIN GUTTERS ABOVE DOORS.
BASE DESCRIPTION:	428"L x 162"W x 60"H BUILT FROM 1/4" STEEL PLATE, 60" C-CHANNEL AND 1/4" STEEL DIAMOND PLATE FLOOR, WITH ELECTRICAL STUB-UP AREA(S), 8 POINT LIFTING (24,000 LBS SAFE WORKING LOAD EACH), AND PRIMED AND PAINTED WITH BLACK ENAMEL.
UL-142 LISTED TANK DESCRIPTION:	16,000 GALLON INNER TANK: 418"L x 142"W x 57"H OUTER RUPTURE TANK: 428"L x 162"W x 60"H SIZE WILL CHANGE PER ADDITIONAL FUEL CAPACITY
ESTIMATED WEIGHT:	ENCLOSURE - 34,000 LBS BASE - 37,000 LBS GENERATOR - 77,200 LBS FUEL - 113,498 LBS WEIGHT WILL CHANGE BASED ON ADDITIONAL FUEL CAPACITY
STAIRS:	WELDED STEEL STAIRS WITH LANDING(S), PRIMED AND PAINTED WITH GALVANIZED STAIR THREADS, DESIGNED TO MEET OSHA STANDARDS WITH 42" HIGH HANDRAILS, FOR TWO (2) DOUBLE DOORS(S), PLATFORM WIDTH IS 42" (SINGLE DOORS) OR 78" (DOUBLE DOORS), STANDARD PLATFORM DEPTH IS 42", PLATFORM/STAIR HEIGHT IS 43". LARGER PLATFORMS/STAIRS MAY REQUIRE A REVISED QUOTE.



5 GENERATOR BASE DETAILS
SCALE: N.T.S.

TACTICAL TRAINING DESIGN

Tactical Design North, Inc.
231 E. Buffalo St #502, Milwaukee, WI 53202

LOCAL ARCHITECT

Jacobs Wyper Architects
1232 Chancellor St, Philadelphia, PA 19107

STRUCTURAL ENGINEER

Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, NY 10007

ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER

A & J Consulting Engineering Services, P.C.
164 Brighton Rd, Clifton, NJ 07012

MECHANICAL, AVIATION ENGINEER

Interface Engineering, Inc.
2000 M Street NW, Suite 270, Washington, DC 20036

ACOUSTICAL ENGINEER

Cerami
1001 Ave of the Americas, 4th Floor, New York, NY 10018

CODE CONSULTING

CCI
215 W 40th St, 10th Floor, New York, NY 10018

CIVIL ENGINEER

Langan
1818 Market St #3300, Philadelphia, PA 19103

VERTICAL TRANSPORT

Michael Blades & Associates Ltd.
5409 Ravidan Ct, Lothian, MD 20711

SIGNAGE CONSULTANT

Patricia Hord Graphik Design
119 S. St. Asaph St, Alexandria, VA 22314

LANDSCAPE

Lee and Associates, Inc.
638 I Street NW, Washington, DC 20001

LIGHTING

MCLA
1000 Patomic St NW, Suite 121, Washington, DC 20007

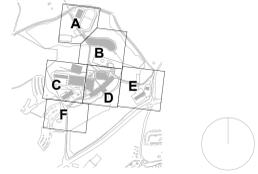
FOOD SERVICE

Hopkins Foodservice Specialists, Inc.
7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

AQUA Design International
7536 N. La Cholla Blvd, Tucson, AZ 85741

KEYPLAN



NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
3	23 JUN 2023	ADDENDUM 28			
2	19 MAY 2023	ISSUED FOR BID			
1	18 FEB 2023	ISSUED TO L&I			

RECORD REVISIONS



SIGNATURE DATE

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No. C-0211-0005 PHASE 5

Pennsylvania State Police Academy
Core Buildings, BES0 & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE

BAR IS ONE (1) INCH LONG
ON ORIGINAL DRAWING: 1
IF BAR IS NOT ONE (1) INCH LONG,
ADJUST SCALE ACCORDINGLY

PLANT SCHEDULE

SHEET No.

STE-L-510

DRAWN BY

LB/DJ

CHECKED BY

BS

DATE

MAY 2023

SCALE

AS NOTED

3

KEY	QTY	LATIN NAME	COMMON NAME	SIZE	SPACING	LIGHT REQUIREMENTS	EVERGREEN	NATIVE	HEIGHT	SPREAD
TREES										
AS	122	Acer saccharum	Sugar Maple	2" to 2-1/2" cal.	As shown	Full Sun-Part Shade	No	Yes	80'-0"	60'-0"
FG	2	Fagus grandifolia	American Beech	2" to 2-1/2" cal.	As shown	Full Sun-Part Shade	No	Yes	80'-0"	80'-0"
GT	51	Gleditsia triacanthos	Honey Locust	2" to 2-1/2" cal.	As shown					
IO	34	Ilex opaca	American Holly	6-7' ht.	As shown	Sun - Pt. Shade	Yes	Yes	15-30'	10-20'
JV	0	Juniperus virginiana	Eastern Red Cedar		As shown	Full Sun	Yes	Yes	65'-0"	25'-0"
LT	39	Liquidambar styraciflua "Slender Silhouette"	Columnar Sweetgum	2" to 2-1/2" cal.	As shown					
NS	21	Nyssa sylvatica	Black Gum	2" to 2-1/2" cal.	As shown	Full Sun-Part Shade	No	Yes	50'-0"	30'-0"
QA	13	Quercus alba	White Oak	2" to 2-1/2" cal.	As shown	Full Sun	No	Yes	80'-0"	80'-0"
QC	29	Quercus coccinea	Scarlet Oak	2" to 2-1/2" cal.	As shown					
QM	0	Quercus macrocarpa	Bur Oak	2" to 2-1/2" cal.	As shown	Full Sun	No	Yes	80'-0"	80'-0"
QO	3	Quercus montana	Chestnut Oak	2" to 2-1/2" cal.	As shown	Full Sun	No	Yes	70'-0"	70'-0"
QR	71	Quercus rubra	Northern Red Oak	2" to 2-1/2" cal.	As shown	Full Sun	No	Yes	75'-0"	75'-0"
TA	5	Tilia americana	American Linden	2" to 2-1/2" cal.	As shown	Full Sun-Part Shade	No	Yes	80'-0"	50'-0"
TC	9	Tsuga canadensis	Eastern hemlock	6-7' ht.	As shown	Part Shade- Shade	Yes	Yes	40'-0"	25'-0"
UN	13	Ulmus americana 'New Harmony'	'New Harmony' American Elm	2" to 2-1/2" cal.	As shown					
UP	56	Ulmus americana 'Princeton'	Princeton Elm	2" to 2-1/2" cal.	As shown					
SHRUB										
AA	839	Aronia arbutifolia 'Brilliantissima'	Red Chokeberry	#3	4'-0" O.C.	Full Sun-Part Shade	No	Yes	8'-0"	4'-0"
AM	115	Aronia melanocarpa 'Autumn Magic'	Black Chokeberry	#5	6'-0" O.C.	Full Sun-Part Shade	No	Yes	6'-0"	6'-0"
CK	429	Cornus sericea 'Kelsey'	Kelsey Red Osier Dogwood	#3	3'-0" O.C.	Full Sun-Part Shade	No	Yes	3'-0"	3'-0"
CL	231	Clethra alnifolia 'Hummingbird'	Summersweet	#5	5'-0" O.C.	Full Sun-Part Shade	No	Yes	4'-0"	5'-0"
CM	20	Calliandra americana	American Beautyberry	#5	6'-0" O.C.	Full Sun-Part Shade	No	Yes	6'-0"	6'-0"
CS	481	Cornus sericea 'Flaviramea'	Yellow Twig Dogwood	#5	6'-0" O.C.	Full Sun-Part Shade	No	Yes	6'-0"	6'-0"
IC	548	Ilex verticillata 'Nana' Red Sprite	Winterberry	#3	3'-0" O.C.	Sun - Pt. Shade	Yes	No	2.5-3'	2.5-3'
ORNAMENTAL GRASS										
CP	58423	Carex pensylvanica	Sedge	#1	1'-0" O.C.	Full Sun-Part Shade	Semi	Yes	1'-0"	1'-0"
CR	6339	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	#3	2'-6" O.C.	Full Sun	No	No	5'-0"	2'-6"
CU	3656	Carex muskingumensis	Palm Sedge	#3	3'-0" O.C.	Full Sun-Part Shade	No	Yes	3'-0"	3'-0"
OJ	16647	Ophiopogon japonicus 'Nana'	Dwarf Mondo Grass	#SP5	0'-6" O.C.	Full Sun-Part Shade	Yes	No	0'-6"	0'-6"
PA	6899	Pennisetum alopecuroides 'Little Bunny'	Fountain Grass	#1	2'-0" O.C.	Full Sun-Part Shade	No	Yes	1'-6"	2'-0"
PR	1128	Panicum virgatum 'Ruby Ribbons'	Switchgrass	#3	2'-6" O.C.	Full Sun-Part Shade	No	Yes	4'-0"	2'-6"
PV	5456	Panicum virgatum 'Shenandoah'	Switchgrass	#3	4'-0" O.C.	Full Sun-Part Shade	No	Yes	4'-0"	4'-0"
HERBACIOUS PERENNIALS										
AG	262	Allium 'Globemaster'	Ornamental Onion	#1	1'-6" O.C.	Full Sun	No	No	2'-6"	1'-6"
BC	37	Baptisia 'Cherries Jubilee'	False Indigo	#3	3'-0" O.C.	Full Sun-Part Shade	No	Yes	3'-0"	3'-0"
CT	0	Coreopsis tripteris 'Gold Standard'	Tickseed	As shown		Full Sun	No	Yes	8'-0"	8'-0"
EF	142	Eutrochium fistulosum	Joe Pyeweed	#3	4'-0" O.C.	Full Sun-Part Shade	No	Yes	7'-0"	4'-0"
EP	770	Echinacea purpurea 'Magnus'	Purple Coneflower	#1	1'-6" O.C.	Full Sun-Part Shade	No	No	3'-0"	1'-6"
LS	55	Liatris spicata	Blazing Star	#1	1'-6" O.C.	Full Sun	No	Yes	4'-0"	1'-6"
NR	488	Nepeta racemosa 'Walker's Low'	Catmint	#3	3'-0" O.C.	Full Sun-Part Shade	No	No	2'-6"	3'-0"
PD	141	Penstemon digitalis	Beardtongue	#1	2'-0" O.C.	Full Sun	No	Yes	5'-0"	2'-0"
SS	94	Solidago sphacelata 'Golden Fleece'	Goldenrod	#1	1'-6" O.C.	Full Sun	No	Yes	1'-6"	1'-6"

1 PLANT SCHEDULE